SUPER NATURAL

Super Natural

Tutorial

Version 3.3.1 for Mainframes

software AG
ACCEPT NO LIMITS

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This document applies to Super Natural Version 3.3.1 and to all subsequent releases. Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Super Natural Tutorial - Overview

This documentation introduces you to using the most important functions in Super Natural and guides you through adding 11 sample transactions.

Using these sections, you can gain hands-on experience of the product by creating practical examples.

The sample transactions provide an introduction to the major features of Super Natural.

The description of how to create the first transaction Sample1 is very detailed. The other transaction descriptions refer to parts of the first description when procedures are identical.

The descriptions of the first two transactions guide you through adding transactions using the Help, Asterisk List and Continue functions. The other descriptions tell you how to create the transactions as quickly as possible.

The transaction descriptions tell you where you can obtain further information on certain subjects.

The sample transactions use the demonstration files supplied with Super Natural.

The transaction descriptions assume that you have the following default transaction modes:

```
      Help        Exit              Flip                                Canc

09:22                       ***** Super Natural *****               06.Jan.1998
SNPROF                         - Modify Profile -                     Wednesday

                                      +---Transaction Modes Reporting----+
             _  Screen Colors         !                                  !
                                      ! Data Selection .. F  Full-screen !
             _  Screen Defaults       !                                  !
                                      ! Data Change ..... N  None        !
             _  Date/Time Formats     !                                  !
                                      ! Report Type ..... L  List        !
             _  PF Key Settings       ! Report Level .... D  Detailed    !
                                      !                                  !
             _  Language Code and Checklis ! Destination ..... S  Screen      !
                                      !                                  !
             _  Transaction Options   ! Run Mode ........ O  Online      !
                                      !                                  !
             X  Transaction Modes     ! Batch printer ...    (0 - 31)    !
                                      ! RJE available ... N  (Y/N)       !
                                      !                                  !
                                      +----------------------------------+
```

This documentation is organized in a number of example, each guiding you through a sample transaction. The transactions concentrate on the following areas of Super Natural:

- Sample 1: Basic Transaction
- Sample 2: Worksheet
- Sample 3: User Fields, Calculation and Logical Conditions Editors
- Sample 4: Modes and User File
- Sample 5: Layout Editor
- Sample 6: File Link
- Sample 7: File Lookup
- Sample 8: Dynamic Input Fields
- Sample 9: RPC Service in Context Mode with Primary, Secondary and Lookup files
- Sample 10: RPC Service in Context Mode with Dynamic Input
- Sample 11: RPC Service in Direct Mode with Summary Functionality

Sample 1: Basic Transaction

Task: Find the start and destination harbors of cruises with yachts of type ATLANTIC 29.

For this transaction, all you need to define are a primary file, display fields and selection criteria. These are the minimum requirements for a transaction.

Transaction Specification

Primary File	**SAG-TOURS-E-CRUISE**
Display Fields	1: CRUISE-ID 2: START-HARBOR 3: DESTINATION-HARBOR
Selection Criteria	CHARTER-YACHT-TYPE = ’ATLANTIC 29’

This section covers the following topics:

- Create the Transaction SAMPLE1

Create the Transaction SAMPLE1

To add a transaction

1. Select Transaction from the Main Menu.

   Or:

   Issue the `TRANSACTION` command.

   The Transaction List screen appears. The Transaction List screen is an object list screen. For further information on object list screens, see Choosing an Object in **Starting Up** in the *Super Natural User’s Guide*.

2. Type "SAMPLE1" in the Add field.

   Or:

   Issue the `ADD TRANSACTION SAMPLE1` command.

   You can abbreviate this command to `AD TR SAMPLE1`.

   The Add Transaction window appears with the transaction name already entered in the Transaction ID field.

3. Type the description "Basic Transaction in the Description field" (optional).

To Choose File

The report requires data from the file **SAG-TOURS-E-CRUISE**.

1. Type an " asterisk (*)" in the File Name field.
2. Press Enter.

   The File Selection List appears as in the following example:

```
14:12                      ***** Super Natural *****                 1993-02-10
                             - Transaction List -                        SN1110

Cmd  Name     Descript + +----------------File Selection List-----------------+
     *_______          ! !     File Name                          Access  Info !
 __  CRUI     (93-02-0 ! !  _  SAG-TOURS-E-CH-PRICES                R       _   !
 __  CRUISE   (93-02-0 ! !  _  SAG-TOURS-E-COMPANY                  R       _   !
 __  CRUI2    (93-02-0 ! !  _  SAG-TOURS-E-CONTRACT                 R       _   !
 __  DATE     (93-02-0 ! !  _  SAG-TOURS-E-CRUISE                   R       _   !
 __  PRICE    cruise p ! !  _  SAG-TOURS-E-PERSON                   R       _   !
 __  SAG-PER  93-01-27 ! !  _  SAG-TOURS-E-YACHT                    R       _   !
 __  SAMPLEX  simple t ! !  _                                                _   !
 __  SAMPLE2  ex3-02-0 ! !  _                                                _   !
 __  SAMPLE3  (92-12-1 ! !  _                                                _   !
 __  TRAN3    (93-02-0 + !  _                                                _   !
 __           __________ !  _                                                _   !
 __           __________ !  _                                                _   !
Add  sample1             !  _                                                _   !
                         !                                                       !
Cmd(s): Modify, Execute, +-------------------------------------------------------+
```

3. Mark **SAG-TOURS-E-CRUISE** either with any non-blank character or with the cursor position.
4. Press Enter.

   The file name appears in the Add Transaction window as follows:

```
14:12                      ***** Super Natural *****                 1993-02-10
                             - Transaction List -                        SN1110

Cmd  Name     Descript +-------------------Add Transaction--------------------+
     *_______          !                                                       !
 __  CRUI     (93-02-0 ! Transaction ID .... SAMPLE1                           !
 __  CRUISE   (93-02-0 ! Description ....... basic transaction_____________   !
 __  CRUI2    (93-02-0 !                     ___________________________________   !
 __  DATE     (93-02-0 !                                                       !
 __  PRICE    cruise p ! File name ......... SAG-TOURS-E-CRUISE_______________ !
 __  SAG-PER  93-01-27 !                                                       !
 __  SAMPLEX  simple t ! Modify modes ...... _                                  !
 __  SAMPLE2  ex3-02-0 ! Data maintenance .. N (Y/N)                           !
 __  SAMPLE3  (92-12-1 !                                                       !
 __  TRAN3    (93-02-0 +-------------------------------------------------------+
```

   You can also type the file name **SAG-TOURS-E-CRUISE** directly in the File Name field.

5. Press Enter.

The Worksheet appears.

To Choose Fields

The report requires data stored in the fields CRUISE-ID, START-HARBOR and DESTINATION-HARBOR.

1. Enter an "asterisk (*)" in the first position of the Field Name column.

   The Field Selection List window appears:

```
14:11                        ***** Super Natural *****                  1993-02-01
SAMPLE1                            - Worksheet -                          SN3011

Ref DB    Field Name     +----------------Field Selection List----------------+
BE        _______________ !     Field Name                        Format  Info !
BF        _______________ !  _  CRUISE-ID                        N8      __   !
BG        _______________ !  _  CRUISE-TYPE                      A1      __   !
BH        _______________ !  _  CRUISE-STATUS                    A1      __   !
BI        _______________ !  _  START                            *G1     __   !
BJ        _______________ !  _  START-DATE                       N8      __   !
BK        _______________ !  _  START-TIME                       N6      __   !
BL        _______________ !  _  END                              *G1     __   !
BM        _______________ !  _  END-DATE                         N8      __   !
BN        _______________ !  _  END-TIME                         N6      __   !
BO        _______________ !  _  START-HARBOR                     A20     __   !
BP        _______________ !  _  DESTINATION-HARBOR               A20     __   !
BQ        *______________ !  _  ID-YACHT                         N8      __   !
BR        _______________ !  _  ID-PREDECESSOR                   N8      __   !
                          !                                                   !
                          +More:   +----------------------------------------+
```

2. Mark the fields CRUISE-ID, START-HARBOR and DESTINATION-HARBOR.

3. Press Enter.

   The fields appear in the Field Name column and the Worksheet columns next to them are open. The fields are displayed in order of field reference. For further information on field references, see Field Reference (Ref) Column in **The Worksheet** in the *Super Natural User's Guide*.
   You can also enter the names directly into the Field Name column.

Determine Display Sequence

CRUISE-ID is to be displayed first, START-HARBOR second and DESTINATION-HARBOR third in the report.

1. Type "1" in the Sequence column next to the field CRUISE-ID.

2. Type" 2" in the Sequence column next to the field START-HARBOR.

3. Type "3" in the Sequence column next to the field DESTINATION-HARBOR.

   The Worksheet now has the following entries:

```
11:32                        ***** Super Natural *****                1993-02-01
SAMPLE1                            - Worksheet -                          SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AA  1K    CRUISE-ID ......................    1__   ___   __   __   __
AJ  1K    START-HARBOR ...................    2__   ___   __   __   __
AK  1K    DESTINATION-HARBOR .............    3__   ___   __   __   __
BE        ____________________________________  ___   ___   __   __   __   __
BF        ____________________________________  ___   ___   __   __   __   __
BG        ____________________________________  ___   ___   __   __   __   __
BH        ____________________________________  ___   ___   __   __   __   __
BI        ____________________________________  ___   ___   __   __   __   __
BJ        ____________________________________  ___   ___   __   __   __   __
BK        ____________________________________  ___   ___   __   __   __   __
BL        ____________________________________  ___   ___   __   __   __   __
BM        ____________________________________  ___   ___   __   __   __   __
BN        ____________________________________  ___   ___   __   __   __   __
BO        ____________________________________  ___   ___   __   __   __   __


Fill in required definitions
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc
```

Notice that the Delete column is now protected for the fields selected for display. For further information on protected columns, see The Worksheet.

Create Selection Criteria using the Continue Function

The report requires information for cruises which have yachts with charter yacht type ATLANTIC 29.

1. Issue the `SELECTION` command.

   You can abbreviate this command to `SEL`.

   The Selection Editor appears.

2. Issue the `CONTINUE` command.

   This command is allocated to `PF10`.

   The Fields window appears:

```
13:21                        ***** Super Natural *****                1993-02-01
SAMPLE1                         - Selection Editor -                     SNZUL-S

                                      +---------------Fields----------------+
     1  <                             !                                      !
     2  <                             !   _  Field List  Invoke Field List   !
     3  <                             !   _  ALL         Select All Records  !
     4  <                             !                                      !
     5  <                             ! Mark to replace:                     !
     6  <                             !                                      !
     7  <                             +--------------------------------------+
```

3. Mark the Field List field.
4. Press Enter.

   The Field Selection List appears showing the fields already in the Field Name column of the Worksheet marked with a chevron (>).

```
13:21                      ***** Super Natural *****                1993-02-01
SAMPLE1                       - Selection Editor -                     SNZUL-S

                        +----------------Field Selection List----------------+
      1  <              !     Field Name                        Format  Info !
      2  <              !  >  CRUISE-ID                         N8       __   !
      3  <              !  >  START-HARBOR                      A20      __   !
      4  <              !  >  DESTINATION-HARBOR                A20      __   !
      5  <              !  _                                             __   !
      6  <              !  _                                             __   !
      7  <              !  _                                             __   !
      8  <              !  _                                             __   !
      9  <              !  _                                             __   !
     10  <              !  _                                             __   !
     11  <              !  _                                             __   !
     12  <              !  _                                             __   !
     13  <              ! The selected field will be included.               !
     14  <              ! Mark to replace: _                                !
     15  <              !                                                   !
                        +More:   +-------------------------------------------+
```

5. Issue the FORWARD command to see the next page of the Field List.
6. Mark the field CHARTER-YACHT-TYPE.
7. Press Enter.

   The field name CHARTER-YACHT-TYPE appears in the first editor line.

8. Press Enter.

   The Operator window appears:

```
13:23                      ***** Super Natural *****                1993-02-01
SAMPLE1                       - Selection Editor -                     SNZUL-S

                                                 +----------Operator-----------+
      1  < CHARTER-YACHT-TYPE                    !                             !
      2  <                                       !   _  EQ (=)   Equal to      !
      3  <                                       !   _  NE (ª=)  Not Equal     !
      4  <                                       !   _  LT (<)   Less than     !
      5  <                                       !   _  LE (<=)  Less Equal    !
      6  <                                       !   _  GT (>)   Greater than  !
      7  <                                       !   _  GE (>=)  Greater Equal !
      8  <                                       !   _  ST       Starting with !
      9  <                                       !                             !
     10  <                                       ! Mark to replace: _          !
     11  <                                       !                             !
     12  <                                       +-----------------------------+
```

```
 12:01                       ***** Super Natural *****                 1995-05-12
NSN1                           - Selection Editor -                     SNZUL-S

                                                +----------Operator-----------+
      1  < CHARTER-YACHT-TYPE                   !                             !
      2  <                                      !   _  EQ (=)   Equal to      !
      3  <                                      !   _  NE (^=)  Not Equal     !
      4  <                                      !   _  LT (<)   Less than     !
      5  <                                      !   _  LE (<=)  Less Equal    !
      6  <                                      !   _  GT (>)   Greater than  !
      7  <                                      !   _  GE (>=)  Greater Equal !
      8  <                                      !   _  ST       Starting with !
      9  <                                      !                             !
     10  <                                      ! Mark to replace: _          !
     11  <                                      !                             !
     12  <                                      +-----------------------------+
     13  <                                                             >   13
     14  <                                                             >   14
     15  <                                                             >   15


Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                  Flip                                  Canc
```

9. Mark the EQ (=) Equal To field.
10. Press Enter.

    The operator = appears in the first editor line.
11. Press PF10.

    The Value window appears:

```
13:23                       ***** Super Natural *****                 1993-02-01
SAMPLE1                        - Selection Editor -                     SNZUL-S

                                             +--------------Value--------------+
      1  < CHARTER-YACHT-TYPE =               !                               !
      2  <                                    !   _  Alphanumeric Constant     !
      3  <                                    !   _  Hex Constant              !
      4  <                                    !   _  Define Dynamic Input Field !
      5  <                                    !   _  Invoke Field List         !
      6  <                                    !                               !
      7  <                                    !   _  SCAN                      !
      8  <                                    !   _  MASK                      !
      9  <                                    !                               !
     10  <                                    ! Mark to replace: _            !
     11  <                                    !                               !
     12  <                                    +---------------------------------+
```

12. Mark the Alphanumeric Constant field.

    For further information on alphanumeric constants, seeConstants in**Fields** in the *Super Natural User's Guide*.

13. Press Enter.

    The Alphanumeric Constant window appears:

```
13:23                        ***** Super Natural *****                  1993-02-01
SAMPLE1                         - Selection Editor -                       SNZUL-S

                                        +-------Alphanumeric Constant--------+
      1  < CHARTER-YACHT-TYPE =          !                                    !
      2  <                               !  ' _____________________________   !
      3  <                               !    _____________________________ ' !
      4  <                               !                                    !
      5  <                               ! Mark to replace: _                 !
      6  <                               !                                    !
      7  <                               +------------------------------------+
      8  <                                  !   _  MASK                        !
      9  <                                  !                                 !
     10  <                                  ! Mark to replace: _              !
     11  <                                  !                                 !
     12  <                                  +---------------------------------+
```

14. Type "ATLANTIC 29" in the unnamed input field.

15. Press Enter.

    The value ATLANTIC 29 appears in inverted commas (' ') in the first editor line.
    You can also enter "CHARTER-YACHT-TYPE = 'ATLANTIC 29'" directly in the editor lines.

```
13:25                        ***** Super Natural *****                  1993-02-01
SAMPLE1                         - Selection Editor -                       SNZUL-S


      1  < CHARTER-YACHT-TYPE = 'ATLANTIC 29'                              >    1
      2  <                                                                 >    2
      3  <                                                                 >    3
      4  <                                                                 >    4
      5  <                                                                 >    5
```

16. Issue the CHECK command. This command is allocated to PF5.

    If the selection lines are correct, the transaction specification is complete. You have specified fields to use, display sequence and selection criteria.

To Run the Transaction

You can now either save the transaction and execute it later or you can run it to see the report immediately. If the selection lines are incorrect, you can either correct them or keep the transaction and finish it later.

1. Issue the RUN command. This command is allocated to PF11.

   The report is generated:

```
13:28:32  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                          1993-02-01
ISAMPLE1                                                                1

CRUISE-ID     START-HARBOR      DESTINATION-HARBOR
--------- -------------------- --------------------

       79 KIEL                 KIEL
       80 KIEL                 KIEL
       81 KIEL                 KIEL
       82 KIEL                 KIEL
       83 KIEL                 KIEL
       84 KIEL                 KIEL
       85 KIEL                 KIEL
       86 KIEL                 KIEL
       87 KIEL                 KIEL
       88 KIEL                 KIEL
       89 KIEL                 KIEL
       90 KIEL                 KIEL
       91 KIEL                 KIEL
       92 KIEL                 KIEL
       93 KIEL                 KIEL

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip        +                       Canc
```

2. Copy the transaction SAMPLE1 and call it "EG1" as described in Copying Transactions in **Using Reporting Transactions** in the *Super Natural User's Guide*.

3. Try changing the order of the display fields and change the selection criteria to"DESTINATION-HARBOR = 'BAHAMAS' or CHARTER-YACHT-TYPE = 'INDIC-CAT 42'".

Sample 2: Worksheet

Task: List cruises sorted according to cruise starting date and show the cheapest cruise price available for each data and the cheapest cruise ofer all. Do not show cruises which cost less than 500.

This transaction uses the Worksheet to define fields for horizontal and vertical display, change field output definition, a sort field, a control field and a system function at control breaks.

Transaction Specification

Primary File	**SAG-TOURS-E-CRUISE**
Display Fields	1A: START-DATE 1B:END-DATE 2:CRUISE-PRICE 3:CRUISE-ID 4: START-HARBOR 5:DESTINATION-HARBOR 6:CHARTER-YACHT-TYPE
Control Field	1: START-DATE
System Function	`Minimum` on fieldCRUISE-PRICE
Sort Field	2: START-HARBOR
Selection Criteria	AT GE 500

This section covers the following topic:

- Create the Transaction SAMPLE2

Create the Transaction SAMPLE2

Add a Transaction

- Add a transaction called SAMPLE2 with the description Worksheet as described in Step 1 of the section **Sample 1** earlier in this chapter.

To Choose File

The reports requires data from the file**SAG-TOURS-E-CRUISE**.

- Choose the file **SAG-TOURS-E-CRUISE** as described in Step 2 of the section **Sample 1**.

To Choose Fields

The report requires data stored in the fieldsCRUISE-ID, CHARTER-YACHT-TYPE,START-DATE, END-DATE,START-HARBOR, DESTINATION-HARBORand CRUISE-PRICE.

- Choose the fields as described in Step 3 of **Sample 1**.

To Determine Display Sequence for Vertical Output

START-DATE andEND-DATE are to be displayed first withSTART-DATE above END-DATE.

1. Enter a "question mark (?)" in theSequence column next to the fieldSTART-DATE.

   The Help: Seq Column window appears:

2. Mark Vertical Output.

```
11:56                        ***** Super Natural *****                  1993-05-24
SAMPLE2                            - Worksheet -                          SN3011

Ref DB    Field Name                 +------------Help: Seq Column------------+
AA  1K    CRUISE-ID ................ ! Field: START-DATE                      !
AE  1K 2  START-DATE ............... !                                        !
AH  1K 2  END-DATE ................. ! Used to define the output sequence for !
AJ  1K    START-HARBOR ............. ! this field.                            !
AK  1K    DESTINATION-HARBOR ....... !                                        !
AP  1  2  CHARTER-YACHT-TYPE ....... !   _  Horizontal Output                !
AT  1  2  CRUISE-PRICE ............. !   X  Vertical Output                  !
BE        _____________________________ !   _  Output as Text                 !
BF        _____________________________ !                                     !
BG        _____________________________ +-------------------------------------+
```

3. Press Enter.

   The Help: Vertical Output window appears.

4. Mark the field next to 1.

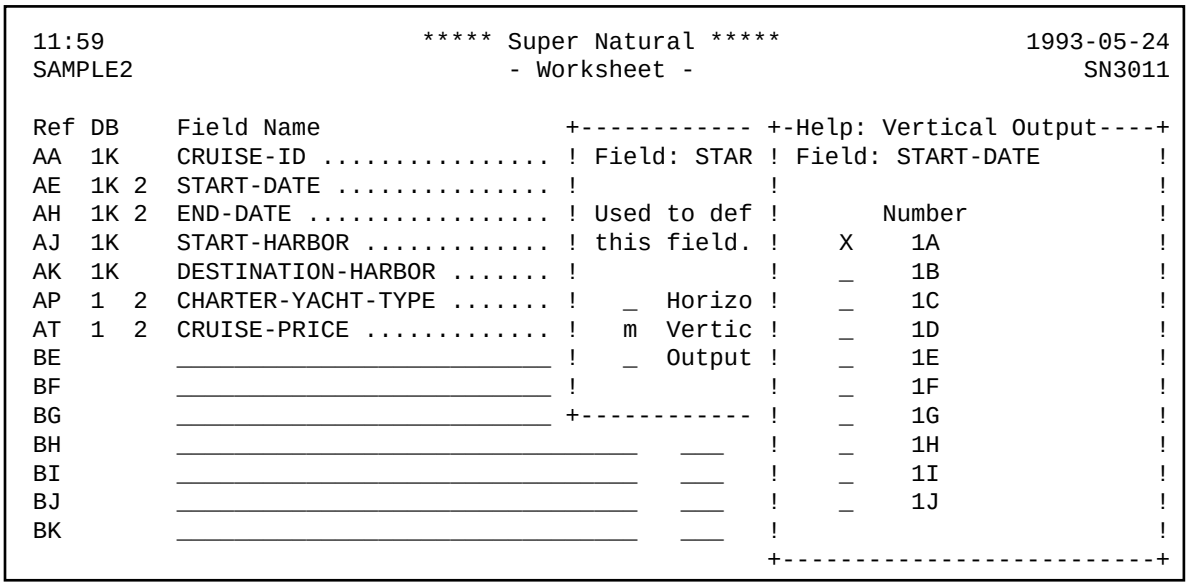
```
11:56                        ***** Super Natural *****                  1993-05-24
SAMPLE2                            - Worksheet -                          SN3011

Ref DB    Field Name                 +------------He +-Help: Vertical Output--+
AA  1K    CRUISE-ID ................ ! Field: START- ! Field: START-DATE      !
AE  1K 2  START-DATE ............... !               !                        !
AH  1K 2  END-DATE ................. ! Used to defin !       Number           !
AJ  1K    START-HARBOR ............. ! this field.   !    x     1             !
AK  1K    DESTINATION-HARBOR ....... !               !    _     7             !
AP  1  2  CHARTER-YACHT-TYPE ....... !   _  Horizont !    _     8             !
AT  1  2  CRUISE-PRICE ............. !   m  Vertical !    _     9             !
BE        _____________________________ !   _  Output a !    _    10             !
BF        _____________________________ !               !    _    11             !
BG        _____________________________ +-------------- !    _    12             !
BH        ___________________________________   ___   _ !    _    13             !
BI        ___________________________________   ___   _ !    _    14             !
BJ        ___________________________________   ___   _ !    _    15             !
BK        ___________________________________   ___   _ !                        !
                                                        +------------------------+
```

   This is the number of the column the field will be in.

5. Press Enter.

   The Help: Horizontal Output window appears:

6. Mark the field next to 1A.



   This positions the field at the top of the column.

7. Press Enter.

   1A appears in the Sequencecolumn next to the field START-DATE.
   You can also enter 1A directly in the Sequencecolumn.

8. Do the same for the field END-DATE but specify the position 1B.

   This positions the field END-DATE directly beneath the field START-DATE in column 1 of the report.
   You can also enter 1B directly in the Sequence column.

To Change Header of Vertical Output Column

The columns for vertical output have the header of the field marked with the letter nearest A by default. This report requires a column header which is more appropriate to the contents, so you need to change the header for the first field in the column.

1. Enter a "question mark (?)" in theDefinition column next to the fieldSTART-DATE.

   The Help: Def Column window appears:

```
08:51                      ***** Super Natural *****                1993-02-04
SAMPLE2                          - Worksheet -                          SN3011

Ref DB    Field Name               +-------------Help: Def Column-------------+
AA  1K    CRUISE-ID ............. ! Field: START-DATE                         !
AE  1K 2  START-DATE ............ !                                           !
AH  1K 2  END-DATE .............. ! Used to modify the output definition for !
AJ  1K    START-HARBOR ........... ! this field.                              !
AK  1K    DESTINATION-HARBOR ..... !                                         !
AP  1  2  CHARTER-YACHT-TYPE ..... !   _  OD  Output Definition              !
AT  1  2  CRUISE-PRICE ........... !                                         !
BE        _____________________ +-----------------------------------------+
```

2. Mark the Output Definition field.
3. Press Enter.

   You can also enter "OD" directly in theDefinition column. The Define Field Output window appears.
4. Make the following entries in the Heading fields:

```
09:40                      ***** Super Natural *****                1993-02-03
SAMPLE2                          - Worksheet -                          SN3011

Ref DB    Field Na +-------------------Define Field Output--------------------+
AA  1K    CRUISE-I ! Field: START-DATE                                         !
AE  1K 2  START-DA !                                                           !
AH  1K 2  END-DATE ! Format/Length ....... N8                                  !
AJ  1K    START-HA ! Numeric sign ........ _ (Y/N)                             !
AK  1K    DESTINAT ! Output length ....... 8__                                 !
AP  1  2  CHARTER- !        dec. places .. _                                   !
AT  1  2  CRUISE-P ! Heading ............. START DATE_____________________     !
BE        _________ !                      END DATE_____________________     !
BF        _________ !                      _____________________________     !
BG        _________ ! Edit mask                                                !
BH        _________ !   ___________________________________________________  !
BI        _________ ! Suppress identical values .. _ (Y/N)                    !
BJ        _________ ! Print zero values .......... _ (Y/N)                    !
BK        _________ ! Occurrences (1)  ___ : ___  (2)  ___ : ___               !
                    !                                                          !
                    +----------------------------------------------------------+
```

5. Press Enter.

To Determine Display Sequence for Horizontal Output

The rest of the fields are to be displayed horizontally.CRUISE-PRICE is to be displayed first after the vertical output column, then CRUISE-ID,START-HARBOR, DESTINATION-HARBOR, and CHARTER-YACHT-TYPE. When you just enter a number in the Sequence column, the field is displayed horizontally by default.

1. Type "2" in the Sequence column next to the field CRUISE-PRICE.
2. Type "3" in the Sequence column next to the field CRUISE-ID.

3. Type "4" in the Sequence column next to the field START-HARBOR.
4. Type "5" in the Sequence column next to the field DESTINATION-HARBOR.
5. Type "6" in the Sequence column next to the field CHARTER-YACHT-TYPE.

To Define Control Break Processing

The report must present data sorted according to the cruise starting date and show the cheapest cruise price available for each date. However, the report should not show cruises costing less than 500.

1. Enter a "question mark (?)" in theSort/Control (S/C) column next to the fieldSTART-DATE.

   The Help: S/C Column window appears.

2. Mark the Control Field field.
3. Mark the Sort/Control Level field.

   The Help: S/C Column window now has the following entries:

```
10:57                        ***** Super Natural *****                  1993-02-03
SAMPLE2                            - Worksheet -                            SN3011

Ref DB    Field Name                          +--------Help: S/C Column--------+
AA  1K    CRUISE-ID .....................     ! Field: START-DATE              !
AE  1K 2  START-DATE .....................     !                                !
AH  1K 2  END-DATE .......................     !  Type                          !
AJ  1K    START-HARBOR ...................     !    _  S  Sort Field            !
AK  1K    DESTINATION-HARBOR .............     !    x  C  Control Field         !
AP  1  2  CHARTER-YACHT-TYPE .............     !                                !
AT  1  2  CRUISE-PRICE ...................     !  Sort Order                    !
BE        _____________________________       !    _  A or 'blank'  Ascending  !
BF        _____________________________       !    _  D             Descending !
BG        _____________________________       !                                !
BH        _____________________________       !  Sort/Control Level            !
BI        _____________________________       !    x  1     _  4     _  7      !
BJ        _____________________________       !    _  2     _  5     _  8      !
BK        _____________________________       !    _  3     _  6     _  9      !
                                              !                                !
                                              +----------------------------------+
```

4. Press Enter.

   The entry C1 appears in the Sort/Control (S/C) column next to the fieldSTART-DATE.

   You can also enter C1 directly in theSort/Control (S/C) column. When the value of the control field START-DATE changes, the report is to display information concerning the field CRUISE-PRICE.

5. Enter a "question mark (?)" in the Function (Func) column next to the fieldCRUISE-PRICE.

   The Help: Func Column window appears.

6. Mark the System Functions field.

```
11:33                        ***** Super Natural *****                1993-02-03
SAMPLE2                            - Worksheet -                          SN3011

Ref DB    Field Name              +-------------Help: Func Column-------------+
AA  1K    CRUISE-ID ............. ! Field: CRUISE-PRICE                       !
AE  1K 2  START-DATE ............ !                                           !
AH  1K 2  END-DATE .............. ! Used to define special functions for this !
AJ  1K    START-HARBOR .......... ! field:                                    !
AK  1K    DESTINATION-HARBOR .... !                                           !
AP  1  2  CHARTER-YACHT-TYPE .... !   X  SF  System Functions                 !
AT  1  2  CRUISE-PRICE .......... !   _  IA  Interfield Arithmetic            !
BE        _____________________ !   _  CB  Special Break Conditions         !
BF        _____________________ !                                           !
BG        _____________________ +-------------------------------------------+
```

The Specify System Functions window appears.

7. Mark the Min column next to Grand End of Report to display the minimum value of the fieldCRUISE-PRICE in the whole report.

8. Mark the Min column next to 1 START-DATE to display the minimum value of the fieldCRUISE-PRICE each time the value of the (1st) control field START-DATEchanges.

   The Specify System Functions window now has the following entries:

```
16:59                        ***** Super Natural *****                1993-02-02
SAMPLE2                            - Worksheet -                          SN3011

+-------------------------Specify System Functions--------------------------+
! Field: CRUISE-PRICE                                                       !
!                                                          N   N   N      !
! Level  Control Field                  Cnt Tot Sum Avg Max Min Cnt Avg Min !
! Grand  End of Report                   _   _   _   _   _   X   _   _   _  !
!     1  START-DATE                      _   _   _   _   _   X   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                                                           !
+---------------------------------------------------------------------------+
```

9. Press Enter.

   A chevron (>) appears in the Function (Func)column next to the field CRUISE-PRICE to indicate that the column has been used.

Note:
For further information on control break processing, seeThe Sort/Control (S/C) Column and The Function (Func) Column in **The Worksheet** in the*Super Natural User's Guide*.

To Define Further Sort Order

The cruises for each starting date are to be sorted according to their start harbor.

- Enter "S2" in the Sort/Control (S/C) column next to the fieldSTART-HARBOR.

  You can also use the help system by entering a "question mark (?)" as described above.

  The Worksheet now has the following entries:

```
09:21                        ***** Super Natural *****                1993-02-04
SAMPLE2                            - Worksheet -                          SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AA  1K    CRUISE-ID ......................    3__   ___   __   __   __   __
AE  1K 2  START-DATE .....................    1A_   C1_   __   __   __   __
AH  1K 2  END-DATE .......................    1B_   ___   __   __   __   __
AJ  1K    START-HARBOR ...................    4__   S2_   __   __   __   __
AK  1K    DESTINATION-HARBOR .............    5__   ___   __   __   __   __
AP  1  2  CHARTER-YACHT-TYPE .............    6__   ___   __   __   __   __
AT  1  2  CRUISE-PRICE ...................    2__   ___   >_   __   __   __
BE        ______________________________    ___   ___   __   __   __   __
BF        ______________________________    ___   ___   __   __   __   __
BG        ______________________________    ___   ___   __   __   __   __
BH        ______________________________    ___   ___   __   __   __   __
BI        ______________________________    ___   ___   __   __   __   __
BJ        ______________________________    ___   ___   __   __   __   __
BK        ______________________________    ___   ___   __   __   __   __


Fill in required definitions
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc
```

To Define Selection Criteria

1. Issue the `SELECTION` command. You can also abbreviate this command to `SEL`.

   The Selection Editor appears. The report requires information on cruises costing more than 500.

2. Enter "AT GE 500" in the editor area.

   `AT` is the Super Natural field reference for the field CRUISE-PRICE. You can always use field references instead of field names in the full-screen editors. The field references for fields in theField Name column of the Worksheet are listed next to them in the Field Reference (Ref) column.
   `GE` is the operator`Greater Equals (greater than or equal to)`. Instead of `GE`, you can use the special characters`>=`.

To Run the Transaction

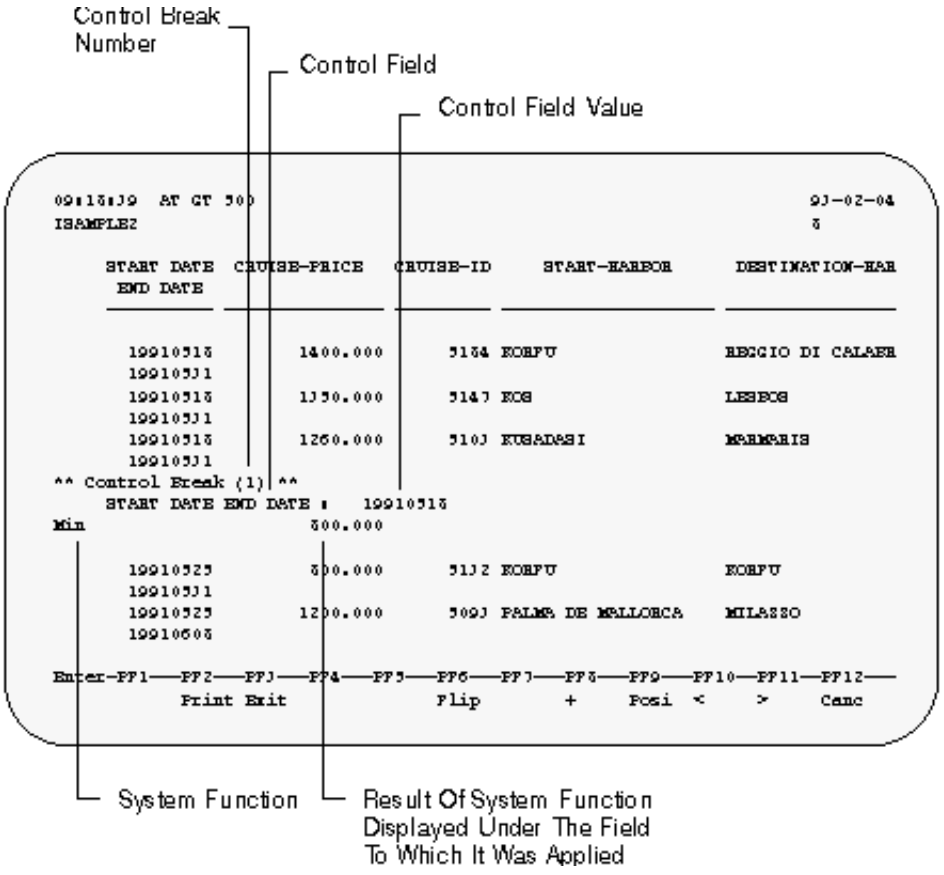
1. Run the transaction as described in Step 6 of the section **Sample 1**.

   The Report Line Length window appears because you have chosen too many fields to be displayed together horizontally on one screen:

```
10:13                        ***** Super Natural *****                  1993-02-03
CRUI2                              - Worksheet -                           SN3011

Ref DB    Field Name     +-----------------Report Line Length-----------------+
AA  1K    CRUISE-ID .... !                                                    !
AE  1K 2  START-DATE ... ! The selected fields required a line size of .. 108 !
AF  1  2  START-TIME ... ! The field headers required a line size of .... 109 !
AJ  1K    START-HARBOR . ! The available Online  line size at present ... 79  !
AK  1K    DESTINATION-HA !                                                    !
AP  1  2  CHARTER-YACHT- !   _  Enlarge Available Line Size                   !
AT  1  2  CRUISE-PRICE . !   _  Change to Report Type Vertical List          !
BE        _____________  !   _  Truncate Headers                            !
BF        _____________  !   _  Remove Excess Fields                        !
BG        _____________  !   _  Remove Excess Fields and Truncate Headers   !
BH        _____________  !   _  Modify Transaction                          !
BI        _____________  !                                                   !
BJ        _____________  +---------------------------------------------------+
BK        ____________________________________   ___   ___   __   __   __   __
```

2. Mark the Enlarge available line size option.
3. Press Enter.

   The report is generated. Part of the resulting report is shown below:



Because you chose the option Enlarge Available Line Size, the report is wider than the screen.

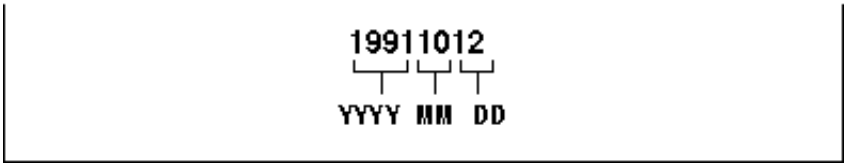
4. Use `PF11` and `PF10` to shift to the left and right in the report.
5. Use `PF9` to position the field at cursor position to the left-hand side of the screen.

Sample 3: User Fields, Calculation and Logical Conditions Editors

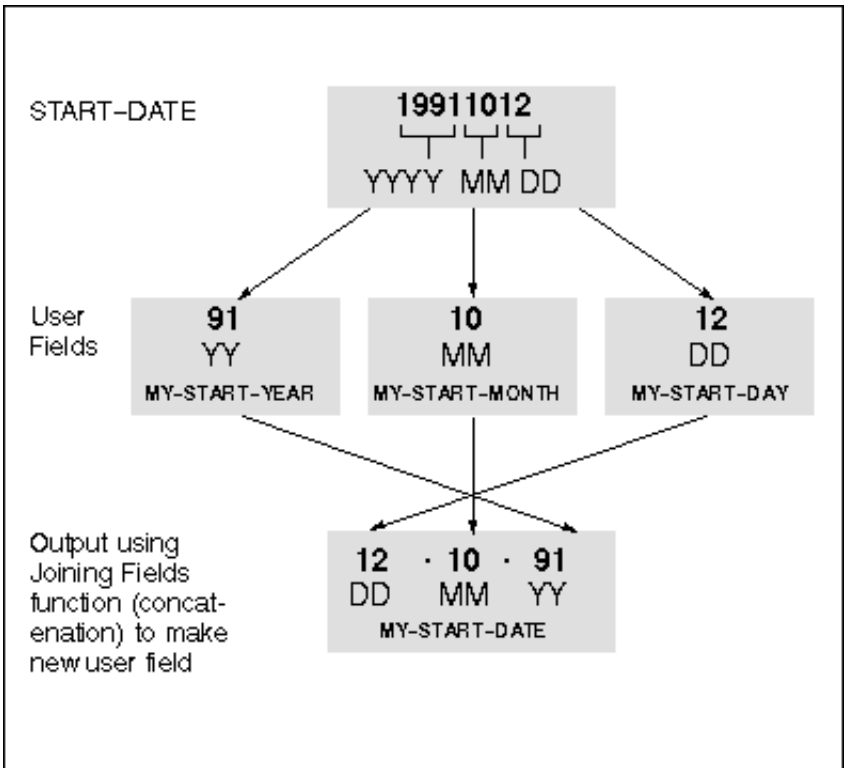
Task: List cruises which use charter yacht type ATLANTIC 29. Display end date of cruise under start date and present the information in the format DD.MM.YY. Display the text 'too late' insted of the datasets for cruises which start after 7.1.1991.

The steps in this transaction are performed in a logical order. The order in which the steps are carried out is different to the order in the previous sample transactions.

The data in the fields START-DATE andEND-DATE is stored in the format YYYYMMDD which is difficult to read at a glance (you can confirm this by adding a report using the file **SAG-TOURS-E-CRUISE** which has the selection criteria AA and the display fields START-DATE andEND-DATE). The following is an example where Y = year, M= month and D = day:



The report requires that the date be presented with the format DD.MM.YY. To do this, you must create three user fields from the fieldSTART-DATE: one with the year information, one with the month information and one with the day information. You then join the user fields together in the order day, month, year with periods (.) using the`Joining Fields (Concatenation)` function in the Calculation Editor as shown in the following diagram:



You then do the same for the field END-DATE.

Transaction Specification

Primary File	**SAG-TOURS-E-CRUISE**
User Fields	**MY-START-DATE** **MY-START-YEAR** **MY-START-MONTH** **MY-START-DAY** **MY-END-DATE** **MY-END-YEAR** **MY-END-MONTH** **MY-END-DAY**
Display Fields	1: CRUISE-ID 2:START-HARBOR 3:DESTINATION-HARBOR 4A:MY-START-DATE 4B: MY-END-DATE
Selection Criteria	CHARTER-YACHT-TYPE = ’ATLANTIC 29’
CalculationStatement	MY-START-DATE=MY-START-DAY!’.’!MY-START-MONTH!’.’!MY-START-YEAR MY-END-DATE=MY-END-DAY!’.’!MY-END-MONTH!’.’!MY-END-YEAR
Logical Conditions Statement	1 I < START-DATE GT 19910701 1 T < MY-START-DATE = ’TOO LATE 1 T < MY-END-DATE = ’ ’

This section covers the following topics:

- Create the Transaction SAMPLE3

Create the Transaction SAMPLE3

To add a transaction

1. Issue the `ADD TRANSACTION SAMPLE3` command.

   The Add Transaction window appears.

2. Type "User Fields and Editors" in theDescription field (optional).

To Choose a File

The report requires data from the file**SAG-TOURS-E-CRUISE**.

1. Type **SAG-TOURS-E-CRUISE** in the File Name field.
2. Press Enter.

The Worksheet appears.

To Choose Fields

The report requires data stored in the fieldsCRUISE-ID, START-HARBOR andDESTINATION-HARBOR.

- Type CRUISE-ID, START-HARBORand DESTINATION-HARBOR beneath each other in theField Name column.

  Or:

  Choose the fields using the `Asterisk List function` as described in Step 3 of the section **Sample 1**.

To Determine Display Sequence for Horizontal Output

1. Type "1" in the Sequence column next to the field CRUISE-ID.
2. Type "2" in the Sequence column next to the field START-HARBOR.
3. Type "3" in the Sequence column next to the field DESTINATION-HARBOR.

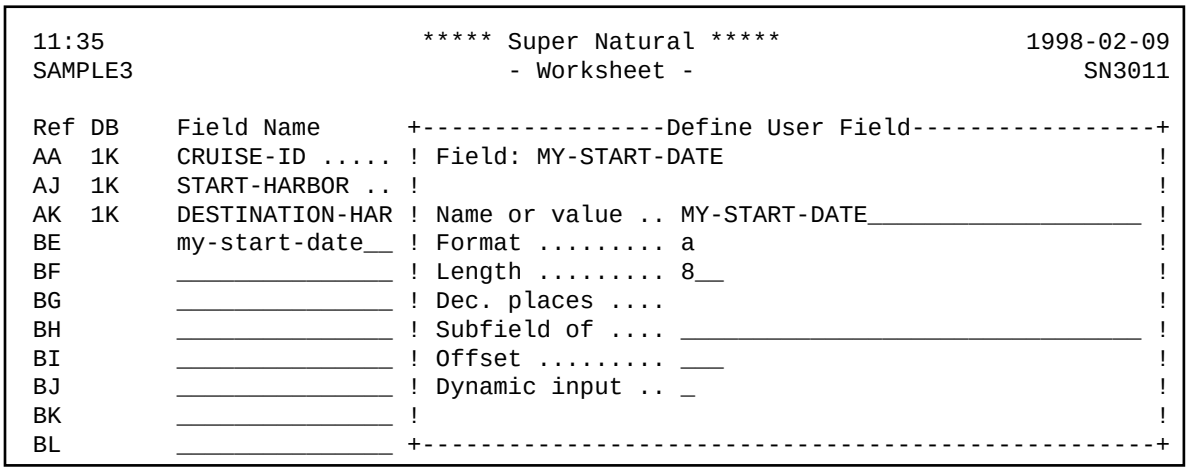
To Define User Fields

The report requires the following user fields as described at the beginning of this section: - MY-START-DATE - MY-START-YEAR - MY-START-MONTH - MY-START-DAY - MY-END-DATE - MY-END-YEAR - MY-END-MONTH - MY-END-DAY

1. Enter MY-START-DATE in the Field Name column.

   The Define User Field window appears.

2. Type "A" in the Formatfield.
3. Type "8" in the Lengthfield:



4. Press Enter.

   The user field MY-START-DATE is created.

5. Enter MY-START-YEAR in the Field Name column.

   The Define User Field window appears.

6. Type "A" in the Formatfield.

7. Type "2" in the Lengthfield:

   This user field is going to take part of the value of the database fieldSTART-DATE.

8. Type START-DATE in the Subfield Of field.

   This user field is going to take the third (3rd) and fourth (4th) characters of the field START-DATE, so you must tellSuper Naturalto ignore the first two characters.

9. Type " 2" in the Offsetfield.

```
11:50                      ***** Super Natural *****                1998-02-09
SAMPLE3                          - Worksheet -                          SN3011

Ref DB    Field Name      +-----------------Define User Field-----------------+
AA  1K    CRUISE-ID ..... ! Field: MY-START-YEAR                              !
AJ  1K    START-HARBOR .. !                                                   !
AK  1K    DESTINATION-HAR ! Name or value .. MY-START-YEAR___________________ !
BE   U    MY-START-DATE . ! Format ......... a                                !
BF        my-start-year__ ! Length ......... 2__                              !
BG        ________________ ! Dec. places .... _                               !
BH        ________________ ! Subfield of .... start-date_____________________ !
BI        ________________ ! Offset ......... 2__                             !
BJ        ________________ ! Dynamic input .. _                               !
BK        ________________ !                                                  !
BL        ________________ +---------------------------------------------------+
```

10. Press Enter.

    The user field MY-START-YEAR is created.

11. Enter MY-START-MONTH in the Field Name column.

    The Define User Field window appears.

12. Type "A" in the Formatfield.

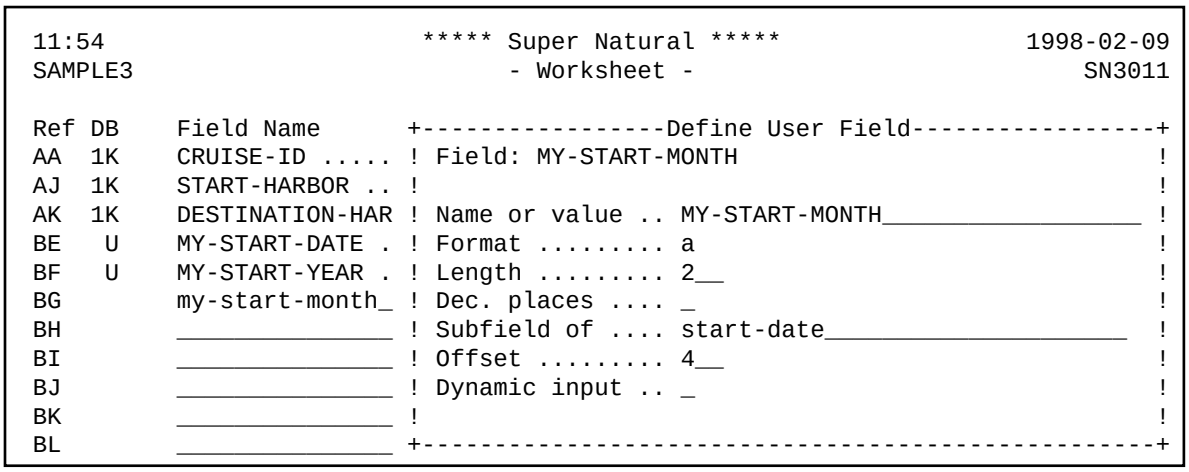
13. Type "2" in the Lengthfield:

    This user field is also going to take part of the value of the database field START-DATE.

14. Type START-DATE in the Subfield Of field.

This user field is going to take the fifth (5th) and sixth (6th) characters of the field START-DATE, so you must tell Super Natural to ignore the first four characters.

15. Type " 4" in the Offsetfield.



16. Press Enter.

    The user field MY-START-MONTH is created.

17. Enter MY-START-DAY in the Field Name column.

    The Define User Field window appears.

18. Type "A" in the Formatfield.

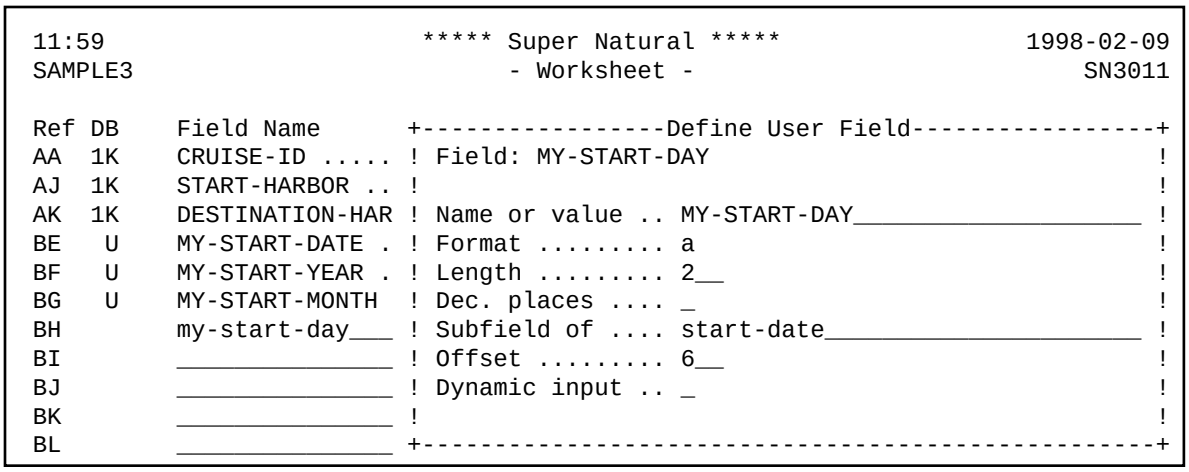
19. Type " 2" in theLengthfield:

    This user field is also going to take part of the value of the database field START-DATE.

20. Type START-DATE in the Subfield Of field.

    This user field is going to take the seventh (7th) and eighth (8th) characters of the field START-DATE, so you must tell Super Natural to ignore the first six characters.

21. Type "6" in the Offsetfield.



22. Press Enter.

    The user field MY-START-DAY is created.

23. Create the other user fields as shown in the table below:

Field	Format	Length	Subfield Of	Offset
MY-END-DATE	A	8		
MY-END-YEAR	A	2	END-DATE	2
MY-END-MONTH	A	2	END-DATE	4
MY-END-DAY	A	2	END-DATE	6

To Determine Display Sequence for Vertical Output

The field MY-START-DATE is to be displayed above the field MY-END-DATE and to the right of the other display fields.

1. Type "4A" in the Sequence column next to the field MY-START-DATE.
2. Type "4B" in the Sequence column next to the field MY-END-DATE.

To Change Header of Vertical Output Column

1. Enter "OD" in the Definition (Def) column next to the fieldMY-START-DATE.

   The Define User Field Output window appears.

2. Enter "Cruise From To" in the Heading fields as shown in the following diagram:

```
14:01                        ***** Super Natural *****                  1998-02-09
SAMPLE3                            - Worksheet -                          SN3011

Ref DB    Field Na +-----------------Define User Field Output-----------------+
AA  1K    CRUISE-I ! Field: MY-START-DATE                                     !
AE  1K 2  START-DA !                                                          !
AH  1K 2  END-DATE ! Format/Length ....... A8                                 !
AJ  1K    START-HA ! Numeric sign ........ _ (Y/N)                            !
AK  1K    DESTINAT ! Output length ....... 8__                                !
AP  1  2  CHARTER- !        dec. places .. _                                  !
BE   U    MY-START ! Heading ............. CRUISE_____________________      !
BF   U    MY-START !                        FROM_____________________       !
BG   U    MY-START !                        TO_______________________       !
BH   U    MY-START ! Edit mask                                              !
BI   U    MY-END-D !   _____________________________________________________ !
BJ   U    MY-END-Y ! Suppress identical values .. _ (Y/N)                   !
BK   U    MY-END-M ! Print zero values .......... _ (Y/N)                   !
BL   U    MY-END-D !                                                        !
                   +-------------------------------------------------------+
```

The Worksheet now has the following entries:

```
13:25                        ***** Super Natural *****                  1998-02-09
SAMPLE3                            - Worksheet -                          SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AA  1K    CRUISE-ID .....................     1__   ___   __   __   __   __
AJ  1K    START-HARBOR ..................     2__   ___   __   __   __   __
AK  1K    DESTINATION-HARBOR ............     3__   ___   __   __   __   __
BE   U    MY-START-DATE .................     4A_   ___   __   __   __   __
BF   U    MY-START-YEAR .................     ___   ___   __   __   __   __
BG   U    MY-START-MONTH ................     ___   ___   __   __   __   __
BH   U    MY-START-DAY ..................     ___   ___   __   __   __   __
BI   U    MY-END-DATE ...................     4B_   ___   __   __   __   __
BJ   U    MY-END-YEAR ...................     ___   ___   __   __   __   __
BK   U    MY-END-MONTH ..................     ___   ___   __   __   __   __
BL   U    MY-END-DAY ....................     ___   ___   __   __   __   __
BM        _____________________________       ___   ___   __   __   __   __
BN        _____________________________       ___   ___   __   __   __   __
BO        _____________________________       ___   ___   __   __   __   __


Fill in required definitions
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc
```

Notice that the user fields are marked with a ’U’ in the DB Column

To Define Selection Criteria

The report requires data for cruises of charter yacht type ATLANTIC 29.

1. Issue the `SELECTION` command.

   You can abbreviate this command to `SEL`.

The Selection Editor appears.

2. Enter "CHARTER-YACHT-TYPE = ’ATLANTIC 29’" in the editor area.

Note:
The field CHARTER-YACHT-TYPE now appears in theField Name column of the Worksheet.

To Present Start Date and End Date of Cruise in the Format DD.MM.YY.

1. Issue the `CALCULATION` command. You can abbreviate this command to `CAL`.

   The Calculation Editor appears. The first result field in the editor area will be the user field MY-START-DATE and will be composed of the user fields MY-START-YEAR,MY-START-MONTH andMY-START-DAYseparated by periods (.). You use the`Joining Fields (concatenation)` function to join the fields and periods.

2. Type "MY-START-DATE = MY-START-DAY".

3. Type the Joining Fields operator valid for your site.

   If you do not know which operator to use, ask your Super Natural administrator.

   Or:

   Issue the `CONTINUE` command. This command is allocated to `PF10`.

   The Fields - Operators window appears.

4. Select Select Operator.

```
14:24                        ***** Super Natural *****                  1998-02-10
SAMPLE3                       - Calculation Editor -                       SNZUL-C

                                                        +---Fields - Operators---+
     1  < MY-START-DATE=MY-START-DAY                    !                        !
     2  <                                               !   _  Invoke Field List !
     3  <                                               !   _  ROUNDED           !
     4  <                                               !   _  Define User Field !
     5  <                                               !   x  Select Operator   !
     6  <                                               !                        !
     7  <                                               ! Mark to replace:       !
     8  <                                               !                        !
     9  <                                               +------------------------+
```

5. Press Enter.

   The Joining Fields window appears.

6. Select the joining fields operator.

```
12:09                      ***** Super Natural *****                1998-05-24
SAMPLE3                     - Calculation Editor -                     SNZUL-C

                                                +---------Joining Field----------+
     1  < MY-START-DATE=MY-START-DAY             !                                !
     2  <                                        !   _  !  Joining Field Operator !
     3  <                                        !                                !
     4  <                                        ! Mark to replace: _             !
     5  <                                        !                                !
     6  <                                        +----------------------------------+
     7  <                                                ! Mark to replace:       !
     8  <                                                !                        !
     9  <                                                +------------------------+
```

7. Press Enter.

   The joining fields operator valid at your site is entered at the end of the calculation statement.

8. Issue the `CONTINUE` command. This command is allocated to `PF10`.

   The Field or Value window appears.

9. Select Alphanumeric Constant.

```
14:34                      ***** Super Natural *****                1998-02-09
SAMPLE3                     - Calculation Editor -                     SNZUL-C

                                               +---------Field or Value----------+
     1  < MY-START-DATE = MY-START-DAY !        !                                !
     2  <                                       !   X  Alphanumeric Constant     !
     3  <                                       !   _  Hex Constant              !
     4  <                                       !   _  Define Dynamic Input Field !
     5  <                                       !   _  Invoke Field List         !
     6  <                                       !                                !
     7  <                                       +----------------------------------+
```

10. Press Enter.

11. Enter a period (.) in the Alphanumeric Constant window which appears.

    A period (.) is entered in quotation marks (’ ’) at the end of the calculation statement.

    For further information on constants see**Constants in Fields** in the *Super Natural User’s Guide*.

12. Type the rest of the calculation statement as shown in the following diagram using the `joining fields` operator valid at your site.

```
14:06                      ***** Super Natural *****                 1998-02-09
SAMPLE3                     - Calculation Editor -                      SNZUL-C


      1  < MY-START-DATE=MY-START-DAY!'.'!MY-START-MONTH!'.'!            >    1
      2  < MY-START-YEAR                                                 >    2
      3  < MY-END-DATE=MY-END-DAY!'.'!MY-END-MONTH!'.'!                  >    3
      4  < MY-END-YEAR                                                   >    4
      5  <                                                               >    5
      6  <                                                               >    6
      7  <                                                               >    7
      8  <                                                               >    8
      9  <                                                               >    9
     10  <                                                               >   10
     11  <                                                               >   11
     12  <                                                               >   12
     13  <                                                               >   13
     14  <                                                               >   14
     15  <                                                               >   15


Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip  -     +           Cont  Run   Canc
```

For further information on joining fields and the joining fields operator, see **Joining Fields** in Editors in the *Super Natural User's Guide*.

To Define Logical Conditions

The report requires that the text 'Too Late' be displayed in theCruise/To/From column for cruises which start later than July 1st 1991.

1. Issue the `LOGIC` command. You can abbreviate this command to `LOG`.

   The Logical Conditions Editor appears.

2. Type "START-DATE GT 19910701" in theIF line.

   The field START-DATE now appears in theField Name column in the Worksheet.

3. Type "MY-START-DATE = 'TOO LATE'" in theTHEN line.

4. Tab to the Clause Type column (on the right).

5. Overtype the `E` which is already there with a`T` to create a new THENline.

6. Press Enter.

7. Type "MY-END-DATE = ' '" in the newTHEN line.

   The Logical Conditions Editor now contains the following entries:

```
16:11                      ***** Super Natural *****                  1998-02-09
SAMPLE3                  - Logical Conditions Editor -                   SNZUL-L


  1 I    < START-DATE GT 19910701                                        > I 1
  1 T    < MY-START-DATE = 'TOO LATE'                                    > T 1
  1 T    < MY-END-DATE = ' '                                             > T 1
         <                                                               > _
         <                                                               > _
         <                                                               > _
         <                                                               > _
         <                                                               > _
         <                                                               > _
         <                                                               > _
         <                                                               > _
         <                                                               > _
         <                                                               > _
         <                                                               > _
         <                                                               > _

Define logic conditions or use CONTINUE
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip  -     +           Cont  Run   Canc
```

To Run the Transaction

1. Run the transaction as described in Step 6 of the section **Sample 1** earlier in this section.

   The report is generated. Part of the resulting report is shown below:

```
16:16:05  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                           1998-02-09
ISAMPLE3                                                                 4

CRUISE-ID     START-HARBOR      DESTINATION-HARBOR   CRUISE
                                                       FROM
                                                        TO
--------- -------------------- -------------------- --------

       97 KIEL                 KIEL                 8.6.91
                                                    22.6.91
       98 KIEL                 KIEL                 22.6.91
                                                    29.6.91
       99 KIEL                 KIEL                 29.6.91
                                                    10.8.91
      100 KIEL                 KIEL                 TOO LATE

      101 KIEL                 KIEL                 TOO LATE

      102 KIEL                 KIEL                 TOO LATE



Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit             Flip        +                       Canc
```

Sample 4: Modes and User File

Task: Show all cruises which use a yacht of charter yacht type ATLANTIC 29 listed in order of cruise starting date. Show how many cruises there are in each month.

1. Present the data in a list
2. Present the data with one record on each page
3. Summarize the data
4. Create a user file containing the data

This transaction uses the Selection Editor, a control field, a system function and special break conditions to select the data required. The transaction uses different transaction modes to present data as required and to create a user file which contains the report data.

The steps in this transaction are performed in a logical order. The order in which the steps are carried out is different to the order in the previous sample transactions.

Transaction Specification

Primary File	**SAG-TOURS-E-CRUISE**
Display Fields	1: CRUISE-ID 2:START-HARBOR 3:DESTINATION-HARBOR 4:START-DATE
Selection Criteria	CHARTER-YACHT-TYPE = ’ATLANTIC 29’
Control Field	START-DATE
Special Break Conditions	First ’n’ characters: 6
System Functions	Count CRUISE-ID

This section covers the following topics:

- To create the transaction SAMPLE4:

To create the transaction SAMPLE4:

To Add a Transaction

1. Issue the `ADD TRANSACTION SAMPLE4` command.

   The Add Transaction window appears.

2. Type "Modes and User File" in theDescription field (optional).

To Choose a File

The report requires data from the file**SAG-TOURS-E-CRUISE**.

1. Type **SAG-TOURS-E-CRUISE** in the File Name field.
2. Press Enter.

   The Worksheet appears.

To Choose Fields

The report requires data stored in the fieldsCRUISE-ID, START-DATE,START-HARBOR andDESTINATION-HARBOR.

- Type CRUISE-ID, START-DATE,START-HARBOR andDESTINATION-HARBOR beneath each other in theField Name column..

  Or:

  Choose the fields using the `Asterisk List`function as described in Step 3 in **Sample 1**.

To Determine Display Sequence for Horizontal Output

1. Type "1" in the Sequence column next to the fieldCRUISE-ID.
2. Type "2" in the Sequence column next to the fieldSTART-HARBOR.
3. Type "3" in the Sequence column next to the fieldDESTINATION-HARBOR.
4. Type " 4" in the Sequence column next to the fieldSTART-DATE.

To Define Control Break Processing

The report requires all cruises which use a yacht of charter yacht type ATLANTIC 29 listed in order of cruise starting date. The number of cruises per month is to be displayed.

1. Type "C1" in the Sort/Control (S/C) column next to the fieldSTART-DATE.

   The cruises will be listed in order of their starting date.
   The data in the field START-DATE is stored in the format YYYYMMDD where the first four characters show the year, the third (3rd) and fourth (4th) the month and the fifth (5th) and sixth (6th) the day. You can use the `Special Break Conditions` function to define a control break when the first six characters of the fieldSTART-DATE change.
2. Enter "CB" in the Function (Func) column next to the fieldSTART-DATE.

   The Special Break Conditions window appears.
3. Enter "6" in the First ’n’ Characters field.

```
11:14                        ***** Super Natural *****                 1998-02-18
SAMPLE4                            - Worksheet -                          SN3011

Ref DB    Field Name              +---------Special Break Conditions----------+
AA  1K    CRUISE-ID ............. ! Field: START-DATE                         !
AE  1K 2  START-DATE ............ !                                           !
AJ  1K    START-HARBOR .......... ! Format .. N                               !
AK  1K    DESTINATION-HARBOR .... ! Length .. 8                               !
BE        _____________________ ! !
BF        _____________________ ! Perform control break after change of the !
BG        _____________________ ! first 'n' field characters.                 !
BH        _____________________ ! Do not enter any value if the complete     !
BI        _____________________ ! length should be taken.                    !
BJ        _____________________ !                                            !
BK        _____________________ ! First 'n' characters: 6_                    !
BL        _____________________ !                                            !
BM        _____________________ +-------------------------------------------+
```

A control break is defined when the month value of the fieldSTART-BREAKchanges.

4. Enter "SF "in the Function (Func) column next to the fieldCRUISE-ID.

   The Specify System Functions window appears.

5. Mark the field next to the field START-DATE and below the field Cnt.

```
11:14                        ***** Super Natural *****                 1998-02-18
SAMPLE4                            - Worksheet -                          SN3011

+--------------------------Specify System Functions---------------------------+
! Field: CRUISE-ID                                                            !
!                                                                 N   N   N  !
! Level  Control Field                  Cnt Tot Sum Avg Max Min Cnt Avg Min !
! Grand  End of Report                   _   _   _   _   _   _   _   _   _  !
!     1  START-DATE                      X   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                        _   _   _   _   _   _   _   _   _  !
!                                                                            !
+----------------------------------------------------------------------------+
```

6. Press Enter.

   The system function `Count` is carried out for the field CRUISE-ID at each control break of the fieldSTART-DATE.

To Define Selection Criteria

The report requires data for cruises of charter yacht type ATLANTIC 29.

1. Enter SEL in the command line.

   The Selection Editor appears.

2. Enter "CHARTER-YACHT-TYPE = ’ATLANTIC 29’" in the editor area.

To Present the Data in a List

- Press PF11 (RUN).

  The report is generated. Part of the resulting report is shown below:

```
11:21:10  CHARTER-YACHT-TYPE = ’ATLANTIC 29’                        1998-02-18
ISAMPLE4                                                              3

     CRUISE-ID     START-HARBOR      DESTINATION-HARBOR  START-DATE
     --------- -------------------- -------------------- ----------

            85 KIEL                 KIEL                   19910622
            99 KIEL                 KIEL                   19910629
           111 KIEL                 KIEL                   19910629
** Control Break (1) **
     START-DATE :   19910629
Cnt         9

           112 KIEL                 KIEL                   19910713
           113 KIEL                 KIEL                   19910720
            86 KIEL                 KIEL                   19910727
** Control Break (1) **
     START-DATE :   19910727
Cnt         3

           114 KIEL                 KIEL                   19910803

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip        +                      Canc
```

The field CHARTER-YACHT-TYPE now appears in theField Name column of the Worksheet. The Worksheet now has the following entries:

```
11:15                        ***** Super Natural *****                1998-02-18
SAMPLE4                            - Worksheet -                          SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AA  1K    CRUISE-ID ......................    1__   ___   >_   __   __   __
AE  1K 2  START-DATE .....................    4__   C1_   >_   __   __   __
AJ  1K    START-HARBOR ...................    2__   ___   __   __   __   __
AK  1K    DESTINATION-HARBOR .............    3__   ___   __   __   __   __
AP  1  2  CHARTER-YACHT-TYPE .............    ___   ___   __   __   __   __
BE        ____________________________________  ___   ___   __   __   __   __
BF        ____________________________________  ___   ___   __   __   __   __
BG        ____________________________________  ___   ___   __   __   __   __
BH        ____________________________________  ___   ___   __   __   __   __
BI        ____________________________________  ___   ___   __   __   __   __
BJ        ____________________________________  ___   ___   __   __   __   __
BK        ____________________________________  ___   ___   __   __   __   __
BL        ____________________________________  ___   ___   __   __   __   __
BM        ____________________________________  ___   ___   __   __   __   __


System functions have been updated
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc
```

To Present the Data with One Record on Each Page.

You use the transaction mode `Report Type VERTICAL LIST` to present data with one record on each page as the report requires.

1. Press `PF8` (`EXIT`) to leave the report.

   The Worksheet appears.

2. Issue the `MODES` command.

   The Transaction Modes Reporting window appears.

3. Enter "V" in the Report Typef ield as in the following example:

```
11:39                        ***** Super Natural *****                 1998-02-18
SAMPLE4                             - Worksheet -                         SN3011

Ref DB    Field Name                     +----Transaction Modes Reporting-----+
AA  1K    CRUISE-ID ..................... !                                    !
AE  1K 2  START-DATE ..................... ! Data Selection .. F  Full-screen   !
AJ  1K    START-HARBOR ................... !                                    !
AK  1K    DESTINATION-HARBOR ............ ! Data Change ..... N  None          !
AP  1  2  CHARTER-YACHT-TYPE ............ !                                    !
BE        _____________________________ ! Report Type ..... V  Vertical list !
BF        _____________________________ ! Report Level .... D  Detailed      !
BG        _____________________________ !                                    !
BH        _____________________________ ! Destination ..... S  Screen        !
BI        _____________________________ !                                    !
BJ        _____________________________ ! Run Mode ........ O  Online        !
BK        _____________________________ !                                    !
BL        _____________________________ ! Batch printer ... 0  (0 - 31)      !
BM        _____________________________ ! RJE available ... N  (Y/N)         !
                                         !                                    !
                                         +------------------------------------+
```

4. Press PF11 (RUN).

   The report is generated. Part of the resulting report is shown below:

```
11:22:00  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                          1998-02-18
ISAMPLE4                                                                1

CRUISE-ID ..................... 79
START-HARBOR .................. KIEL
DESTINATION-HARBOR ............ KIEL
START-DATE .................... 19910330









Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip        +                       Canc
```

To Summarize the Data

You can just display the results of the system functions which are carried out at control breaks using the Report LevelSUMMARY.

1. Press PF2 (EXIT) to leave the report.

The Worksheet appears.

2. Issue the MODES command.

   The Transaction Modes Reporting window appears.

3. Enter "L" in the Report Typefield.

4. Enter "S" in the Report Levelfield as in the following example:

```
11:39                       ***** Super Natural *****                1998-02-18
SAMPLE4                           - Worksheet -                          SN3011

Ref DB    Field Name                    +----Transaction Modes Reporting-----+
AA  1K    CRUISE-ID ..................  !                                    !
AE  1K 2  START-DATE ..................  ! Data Selection .. F  Full-screen   !
AJ  1K    START-HARBOR .................  !                                    !
AK  1K    DESTINATION-HARBOR ...........  ! Data Change ..... N  None          !
AP  1  2  CHARTER-YACHT-TYPE ...........  !                                    !
BE        _____________________________  ! Report Type ..... L  List          !
BF        _____________________________  ! Report Level .... S  Summary       !
BG        _____________________________  !                                    !
BH        _____________________________  ! Destination ..... S  Screen        !
BI        _____________________________  !                                    !
BJ        _____________________________  ! Run Mode ........ O  Online        !
BK        _____________________________  !                                    !
BL        _____________________________  ! Batch printer ... 0  (0 - 31)      !
BM        _____________________________  ! RJE available ... N  (Y/N)         !
                                         !                                    !
                                         +------------------------------------+
```

   You can not have Report Level SUMMARY with Report Type VERTICAL.

5. Press PF11 (RUN).

   The report is generated. Part of the resulting report is shown below:

```
11:18:21  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                          1998-02-18
ISAMPLE4                                                                 1

     CRUISE-ID     START-HARBOR      DESTINATION-HARBOR  START-DATE
     --------- -------------------- -------------------- ----------

** Control Break (1) **
     START-DATE :   19910330
Old        106 KIEL                 KIEL                   19910330
Cnt         3

** Control Break (1) **
     START-DATE :   19910427
Old         98 KIEL                 KIEL                   19910427
Cnt         4

** Control Break (1) **
     START-DATE :   19910525
Old         96 KIEL                 KIEL                   19910525
Cnt         5


Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip        +                      Canc
```

The lines*Old*display the values in the last record found before the control break.

To Create a User File to Store the Report Data

You can create a user file to contain the report data by using the Report Destination `USERFILE`.

1. Press `PF2` (`EXIT`) to leave the report.

   The Worksheet appears.

2. Issue the `MODES` command.

   The Transaction Modes Reporting window appears.

3. Enter "U" in the Report Destination field as in the following example:

```
11:39                        ***** Super Natural *****                 1998-02-18
SAMPLE4                             - Worksheet -                         SN3011

Ref DB    Field Name                    +----Transaction Modes Reporting-----+
AA  1K    CRUISE-ID ..................  !                                    !
AE  1K 2  START-DATE ..................  ! Data Selection .. F  Full-screen   !
AJ  1K    START-HARBOR ................  !                                    !
AK  1K    DESTINATION-HARBOR ...........  ! Data Change ..... N  None          !
AP  1  2  CHARTER-YACHT-TYPE ...........  !                                    !
BE        _____________________________  ! Report Type ..... L  List          !
BF        _____________________________  ! Report Level .... S  Summary       !
BG        _____________________________  !                                    !
BH        _____________________________  ! Destination ..... U  User file     !
BI        _____________________________  !                                    !
BJ        _____________________________  ! Run Mode ........ O  Online        !
BK        _____________________________  !                                    !
BL        _____________________________  ! Batch printer ... 0  (0 - 31)      !
BM        _____________________________  ! RJE available ... N  (Y/N)         !
                                         !                                    !
                                         +------------------------------------+
```

4. Press Enter.

   The Destination User File window appears with a default user file name and description as in the following example:

```
11:22                        ***** Super Natural *****                 1998-02-18
SAMPLE4                             - Worksheet -                         SN3011

Ref DB    Fi +----------------------Destination Userfile----------------------+
AA  1K    CR !                                                               !
AE  1K 2  ST ! Userfile name .. SAMPLE4_____________                         !
AJ  1K    ST ! Description                                                   !
AK  1K    DE !   CREATED BY: SAMPLE4 (98-02-18 11:28)_____________________ !
AP  1  2  CH !                                                               !
BE        __ +-------------------------------------------------------------+
BF        _____________________________ ! Report Level .... S  Summary     !
```

5. Modify user file name and description (optional).

6. Press Enter.

   The Key column has been added to the worksheet. You must now mark at least one alphanumeric field of a length between 1 and 29 to make it a key field in the user file.

7. Mark the Key column next to the fieldDESTINATION-HARBOR.

   The Worksheet now has the following entries:

```
18:02                        ***** Super Natural *****                1998-02-26
SAMPLE4                            - Worksheet -                          SN3011

Ref DB    Field Name                          Seq  S/C  Key  Func Def  Info Del
AA  1K    CRUISE-ID ......................    1__  ___   __   >_   __   __   __
AE  1K 2  START-DATE .....................    4__  C1_   __   >_   __   __   __
AJ  1K    START-HARBOR ...................    2__  ___   __   __   __   __   __
AK  1K    DESTINATION-HARBOR .............    3__  ___   X_   __   __   __   __
AP  1  2  CHARTER-YACHT-TYPE .............    ___  ___   __   __   __   __   __
BE        _____________________________________  ___  ___   __   __   __   __   __
BF        _____________________________________  ___  ___   __   __   __   __   __
BG        _____________________________________  ___  ___   __   __   __   __   __
BH        _____________________________________  ___  ___   __   __   __   __   __
BI        _____________________________________  ___  ___   __   __   __   __   __
BJ        _____________________________________  ___  ___   __   __   __   __   __
BK        _____________________________________  ___  ___   __   __   __   __   __
BL        _____________________________________  ___  ___   __   __   __   __   __
BM        _____________________________________  ___  ___   __   __   __   __   __


Fill in required definitions
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc
```

8. Press PF11 (RUN).

   The report is generated. A user file is created. The user file now appears in the User File List screen. For further information on user files, see **User Files** in *Super Natural User's Guide*.

Sample 5: Layout Editor

Task: Copy and change the report SAMPLE4 as follows:
1: Change the transaction modes for reporting.
2: Add a preface.
3: Underline the field headers.
4: Add text explaining the data shown at the control break.
5: Add grand total with explanatory text.

This transaction takes the report SAMPLE4 and uses the Layout Editor to make it more understandable.

Line and field commands in the Layout Editor are shown using the period (.) as escape character. Use the escape character defined at your site. The escape character defined at your site is displayed in the delimiter information section of the Layout Editor.

Transaction Specification

Primary File	**SAG-TOURS-E-CRUISE**
Display Fields	1: CRUISE-ID 2:START-HARBOR 3:DESTINATION-HARBOR 4:START-DATE
Selection Criteria	CHARTER-YACHT-TYPE = ’ATLANTIC 29’
Control Field	START-DATE
Special Break Conditions	First ’n’ characters: 6
System Functions	Count CRUISE-ID Grand Total Count CRUISE-ID

This section covers the following topics:

- Create the Transaction SAMPLE5

Create the Transaction SAMPLE5

To Access the Transaction List Screen

- Issue the `TRANSACTION` command.

  Or:

  Select Transactions from the Main Menu.

  Or:

  If you are within a transaction, issue the `EXIT`or `CANCEL` commands until the Transaction List screen appears.

To Copy Transaction SAMPLE4

1. Issue the `COPY TRANSACTION SAMPLE4` command.

   The Copy window appears.

2. Enter "SAMPLE5" in the Target Object window.

   The transaction is copied to the name **SAMPLE5** and appears in the Transaction List screen.

3. Enter "Layout Editor in the Description field" next to SAMPLE5 (optional).

To Change Transaction Report Level and Destination

1. Enter `MO` in the command column next to SAMPLE5.

   The Worksheet appears.

2. Issue the `MODES` command.

   The Transaction Modes Reporting window appears.

3. Enter "D" in the Report Levelfield.

4. Enter "S" in the Destinationfield.

5. Press Enter.

   The Transaction Modes Reporting window closes.

To Add Grand Total

1. Enter "SF" in the Function (Func) column next to the fieldCRUISE-ID.

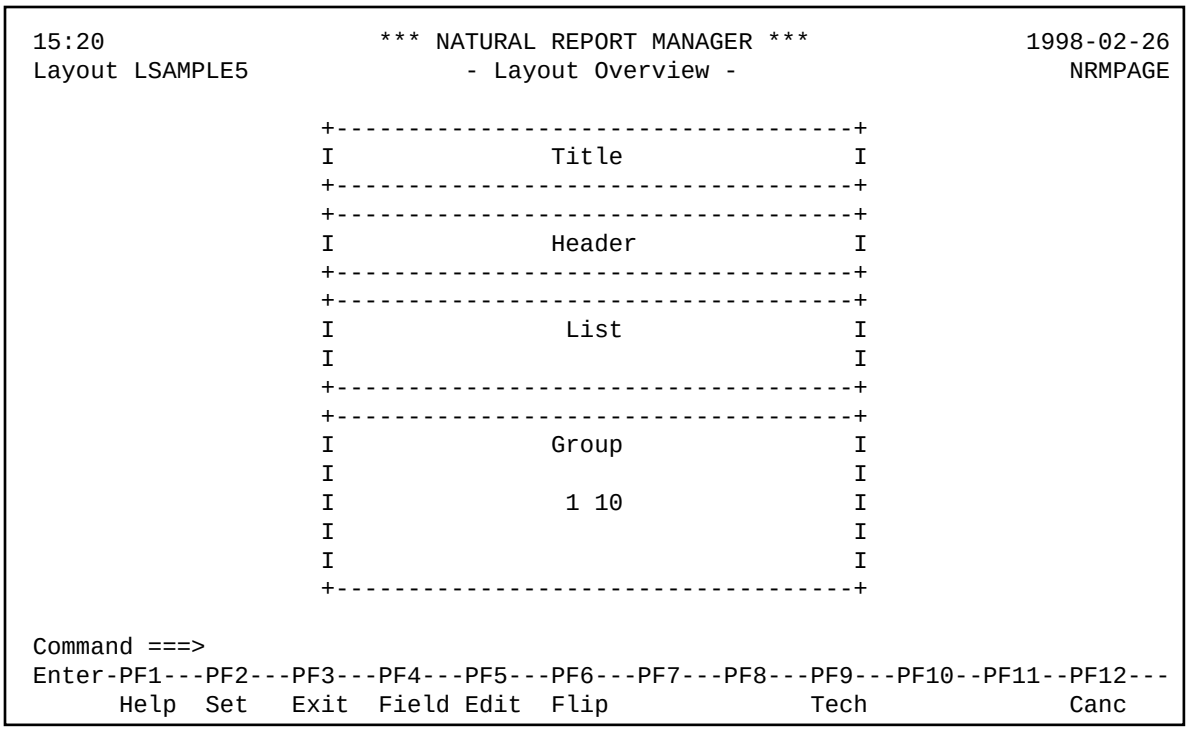
   The Specify System Functions window appears.

2. Enter any non-blank character in the Cnt column next to Grand Control field.

To Invoke NATURAL REPORT MANAGER

- Issue the `LAYOUT` command. You can abbreviate this to `LAY`.

  A default layout is generated from the transaction specification.
  TheLayout Overview screen appears:



You are now using the product Natural Report Manager.
The Title element contains the standard title for your site. The List element contains the fields you have selected to be displayed.

To Add Preface

1. Issue the `EDIT PREFACE` command.

   The Layout Editor appears. The editor area is empty.

2. Type text for a preface in the editor area as shown below:

   Do not type in the first column of the editor area as this is reserved for delimiters.

```
17:16                  *** NATURAL REPORT MANAGER ***               1998-02-26
Layout LSAMPLE5               - Layout Editor -                        NRMEDIT
                                                                 More:     + >
  Transaction Fields                      Delimiter Class    Attrib.  Color
1 CRUISE-ID                     N8.0      Blank     Text     Default
2 CRUISE-TYPE                   A1        _         Text     Intens.
3 CRUISE-STATUS                 A1        (         Output   Default
. START                         *G1       )         Output   Intens.
4 START-DATE                    N8.0
5 START-TIME                    N6.0      Escape Char. = ,   Header Char. = &
Top   ---010---+----+----+---030- ( Preface ) ---050---+----+----+---070--- Typ
                                                                        Pre
 PREFACE                                                                Pre
                                                                        Pre
 This transaction uses data from the file SAG-TOURS-E-CRUISE. The       Pre
 report shows cruise IDs, start harbor, destination harbor and          Pre
 starting date for cruises which use yachts of type Atlantic 29.        Pre
 The data is sorted according to cruise starting date.                  Pre
 At the end of each month, the number of cruises in that month is       Pre
 shown. The total number of cruises is shown at the end of the          Pre

Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc
```

Each text constant must be preceded by a delimiter of the class`TEXT`.
The last word of the preface does not fit into the editor area shown.

3. Issue the `..I` line command in the last line of text.

   A line is inserted after the last line of text (you can not see it).

4. Press `PF8` to page forwards.

5. Enter report as the last word of the preface.

6. Press `PF7` to page backwards.

   The report requires that the word PREFACE be highlighted.

7. If you have a delimiter for intensified text, type it before the word Preface.

   The delimiter for intensified text in the example is '_'.

To Center the Text

1. Issue the `..C` line command in the same line as the word PREFACE.

   The word PREFACE is centered.

2. Issue the `..C*` line command in the next line of text.

   The line is centered and all the lines below are moved the same distance to the right but are not centered.
   Because the Scan Right (>) function is available, you can see that the report is wider than the screen.

```
Top   ---010---+----+----+---030- ( Preface ) ---050---+----+----+---070--- Typ
                                                                            Pre
                                  _PREFACE                                  Pre
                                                                            Pre
       This transaction uses data from the file SAG-TOURS-E-CRUISE. The     Pre
       report shows cruise ID's, start harbor, destination harbor and       Pre
       starting date for cruises which use yachts of type Atlantic 29.      Pre
       The data is sorted according to cruise starting date.                Pre
       At the end of each month, the number of cruises in that month is     Pre
       shown. The total number of cruises is shown at the end of the        Pre

Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc
```

You now need to enter two lines of blanks at the end of the Preface. Because you are at the end of the editor area, you must first create the lines.

3. Issue the `..R(2)` line command at the beginning of the last line of text.

   The last line of text is copied twice.

4. Overtype the two new text lines with blanks.

To Underline Header

1. Issue the `EDIT HEADER` command.

   The Header element appears in the editor area. The Header element contains the headers currently defined for the output fields.

2. Type plus signs ("+") under the header fields.

To Add Text Explaining the Data at Control Breaks

1. Issue the `EDIT GROUP1` command.

   The Group1 element appears in the editor area as follows:

```
All   ---010---+----+----+---030-- ( Group1 ) ---050---+----+----+---070--- Typ
 ** Control Break (1) **                                                    G1_
      START-DATE : )S00000000                                               G1_
 Cnt )S0000000                                                              G1_
                                                                            G1_
                                                                            ___
                                                                            ___
                                                                            ___
                                                                            ___
                                                                            ___
You are on the first page.
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc
```

The Group1 element contains the information displayed at the (first) control break.

2. Overtype the line which contains the text "** " Control Break (1) **with blanks.
3. Type the `.M` field command in the field)S00000000 next to the text START-DATE.
4. Position the cursor in the same line in column 050 (under 050 in the scale).
5. Press Enter.

   The field is moved so it starts under the 050 in the scale.
6. Type the `.M` field command in the field)S00000000next to the textCnt.
7. Position the cursor in the same line in column 050 (under 050 in the scale).
8. Press Enter.

   The field is moved so it starts under the 050 in the scale.
9. Type the `.D` field command in the fieldSTART-DATE.

   The field is deleted.
10. Overtype the colon (:) with a blank.
11. Type the text Last Starting Date: next to the first field)S00000000starting the text at column 019.
12. Type the `.D` field command in the fieldCnt.

    The field is deleted.
13. Type the text Number of Cruises this Month: next to the second field)S00000000 starting the text at column 019.

    The editor area now has the following contents:

```
All   ---010---+----+----+---030-- ( Group1 ) ---050---+----+----+---070--- Typ
                                                                             G1_
                 Last starting date:          )S00000000                     G1_
                 Number of Cruises this Month: )S0000000                     G1
                                                                             __
                                                                             __
                                                                             __
                                                                             __
                                                                             __


Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc
```

To Add Text Explaining the Data at the Grand Total

1. Issue the `EDIT GROUP10` command.

   The Group10 element appears in the editor area as follows:

```
All   ---010---+----+----+---030- ( Group10 ) ---050---+----+----+---070--- Typ
 ** Grand Totals **                                                        G10
 Cnt )S0000000                                                            G10
                                                                          G10
                                                                          ____
                                                                          ____
                                                                          ____
                                                                          ____
                                                                          ____
                                                                          ____
You are on the first page.
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc
```

The Group10 element contains the information displayed at the Grand Total.

2. Issue the `..D` line command in the line which contains ** Grand Totals ** .

   The line is deleted.

3. Type the `.M` field command in the field)S00000000 next to the text Cnt.

4. Position the cursor in the same line at column 050.

5. Press Enter.

   The field is moved.

6. Enter the `.D` field command in the fieldCnt.

   The field is deleted.

7. Enter the text Total Number of Cruises: next to the field)S00000000 starting the text at column 019 (overtype the equals (=) sign).

```
All   ---010---+----+----+---030- ( Group10 ) ---050---+----+----+---070--- Typ
                  Total Number of Cruises:      )S0000000                  G10
                                                                           G10
                                                                           G10
                                                                           ____
                                                                           ____
                                                                           ____
                                                                           ____
                                                                           ____
                                                                           ____
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc
```

To Test the Layout

1. Issue the TEST command.

   The whole layout appears as it would if the transaction were run except for that the output fields and the standard title are filled with dummy data.

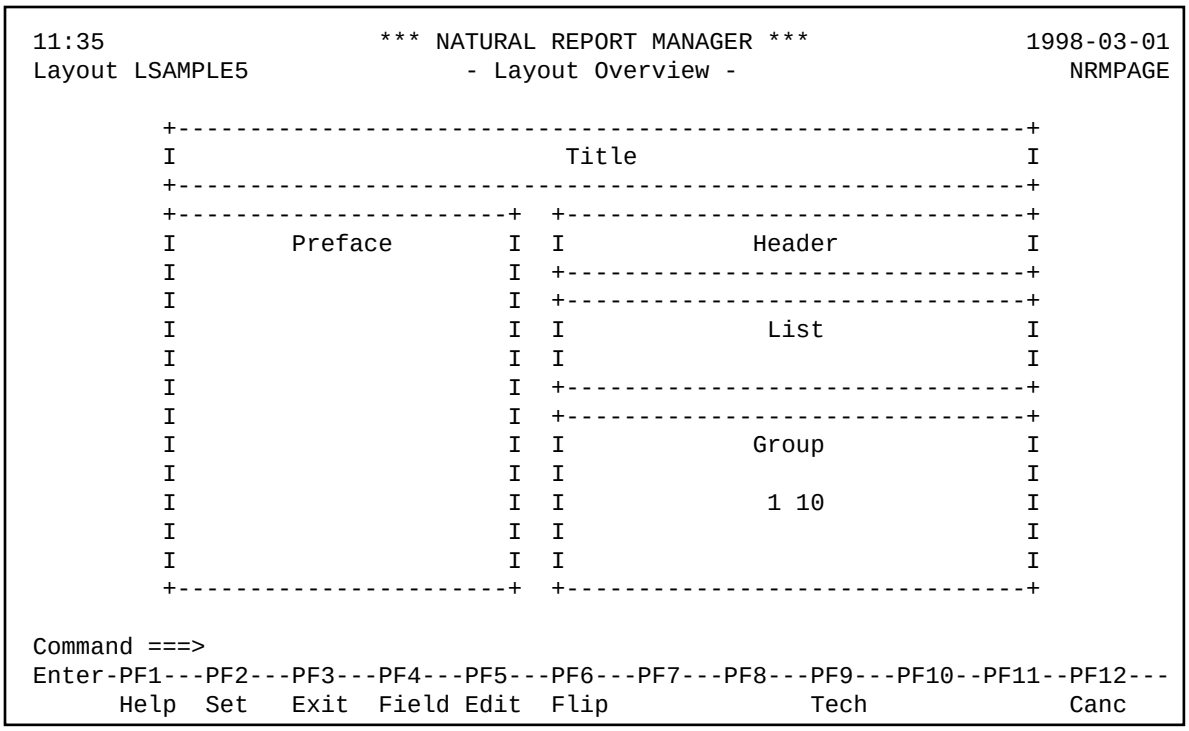
```
17:44:05  SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS 98-02-26
LSAMPLE5  SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS 1
          SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS

                                  PREFACE

       This transaction uses data from the file SAG-TOURS-E-CRUISE. The
       report shows cruise ID's, start harbor, destination harbor and
       starting date for cruises which use yachts of type Atlantic 29.
       The data is sorted according to cruise starting date.
       At the end of each month, the number of cruises in that month is
       shown. The total number of cruises is shown at the end of the
       report.


     CRUISE-ID     START-HARBOR      DESTINATION-HARBOR  START-DATE
     +++++++++     ++++++++++++      ++++++++++++++++++  ++++++++++

             9 AbcDefGhijAbcDefGhij AbcDefGhijAbcDefGhij          9
             9 AbcDefGhijAbcDefGhij AbcDefGhijAbcDefGhij          9


Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip                              Canc
```

2. Page through the layout to make sure that it is what you want.

To Look at Layout Overview Screen and Worksheet (Optional)

1. Press PF2.

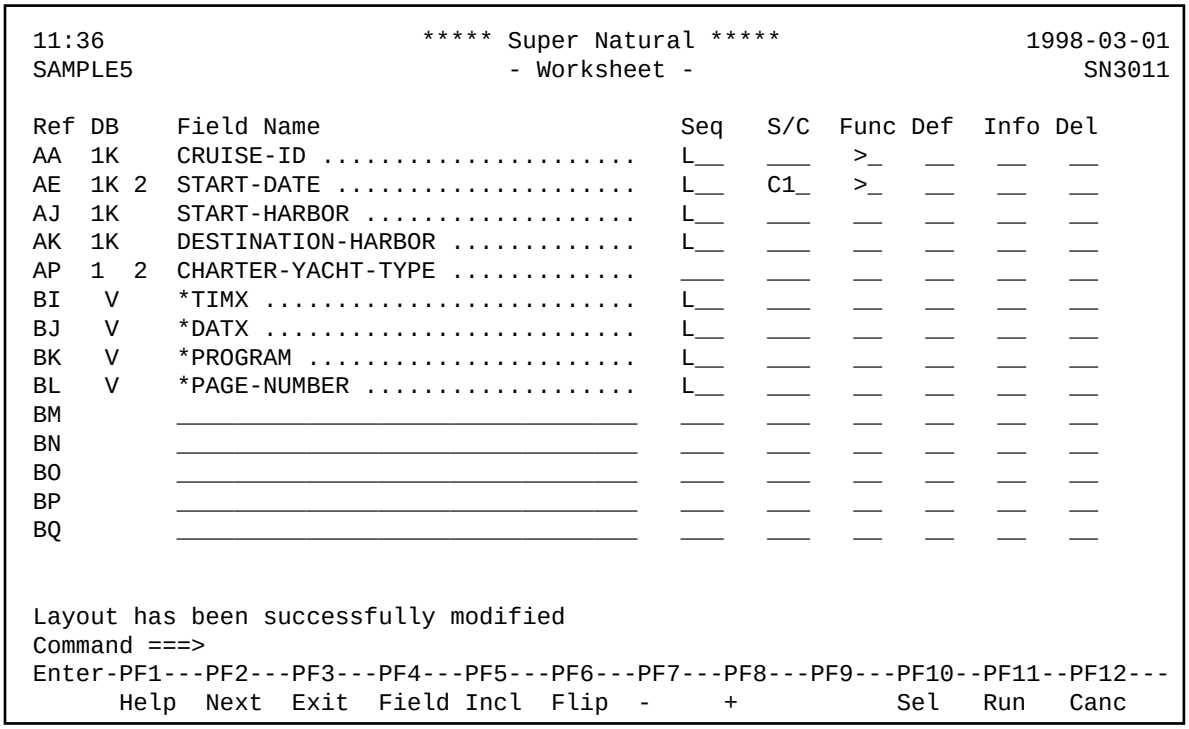
   The Layout Overview screen appears:



The preface element you have created is now shown.

2. Press PF8.

   The Worksheet appears:



There is an "L "in the Sequence (Seq) column next to fields used in layout elements. You can not use the Sequence (Seq) column for these fields until you have deleted them from the layout element. The system variables which are part of the standard title (*TIMX, *DATX,*PROGRAM and *PAGE-NUMBER) appear in the Field Name column and are marked with V in the Database Reference (DB) column.

To Run the Transaction

- Issue the RUN command. In Natural Report Manager, the RUN command is not assigned to PF11.

The report is generated. Some screens from the report are shown below:

```
17:50:22  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                    1998-02-26
ISAMPLE5                                                          1


                                  PREFACE

       This transaction uses data from the file SAG-TOURS-E-CRUISE. The
       report shows cruise ID's, start harbor, destination harbor and
       starting date for cruises which use yachts of type Atlantic 29.
       The data is sorted according to cruise starting date.
       At the end of each month, the number of cruises in that month is
       shown. The total number of cruises is shown at the end of the
       report.









Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip        +                      Canc
```

```
14:28:26  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                          1998-03-01
ISAMPLE5                                                                 2

     CRUISE-ID     START-HARBOR      DESTINATION-HARBOR  START-DATE
     +++++++++     ++++++++++++      ++++++++++++++++++  ++++++++++

            79 KIEL                KIEL                    19910330
            92 KIEL                KIEL                    19910330
           106 KIEL                KIEL                    19910330

                  Last starting date:                     19910330
                  Number of Cruises this Month:           3









            80 KIEL                KIEL                    19910406
           107 KIEL                KIEL                    19910413

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit             Flip        +                       Canc
```

```
17:51:14  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                          1998-02-26
ISAMPLE5                                                                 9

     CRUISE-ID     START-HARBOR      DESTINATION-HARBOR  START-DATE
     +++++++++     ++++++++++++      ++++++++++++++++++  ++++++++++

                  Last starting date:                     19911026









                  Number of Cruises this Month:          4

                  Total Number of Cruises:              41




Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit             Flip        +                       Canc
```

Sample 6: File Link

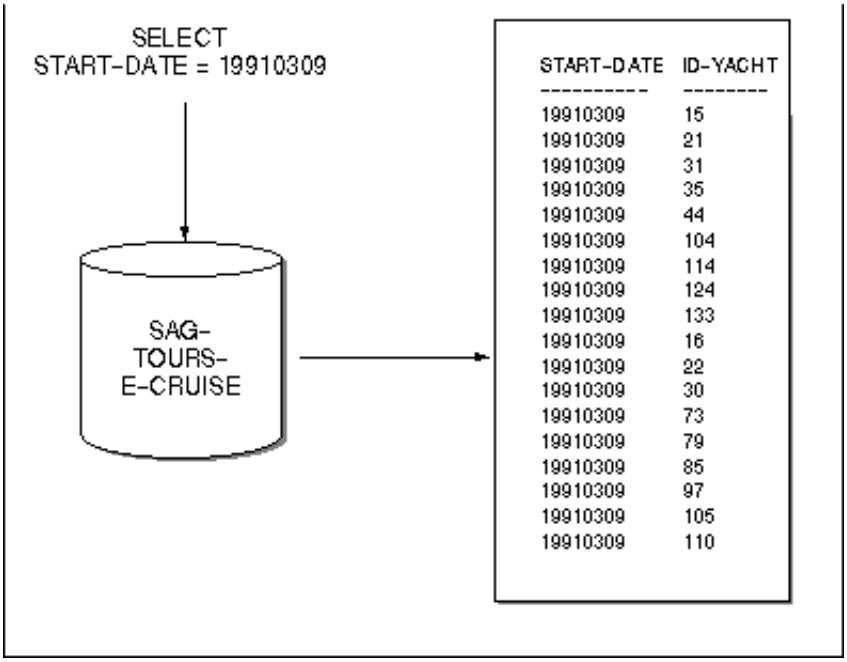
Task: Find both the name and type of the yacht in which a customer sailed on a cruise starting on March 9 1991. the customer is very tall and remembers that the yacht had head room of more than 1m95cm.

Information about cruise starting dates is stored in the file**SAG-TOURS-E-CRUISE**. Yacht names and technical specifications are stored in the file **SAG-TOURS-E-YACHT**. Because you need information from two files, you must link them using the`INCLUDE` command.

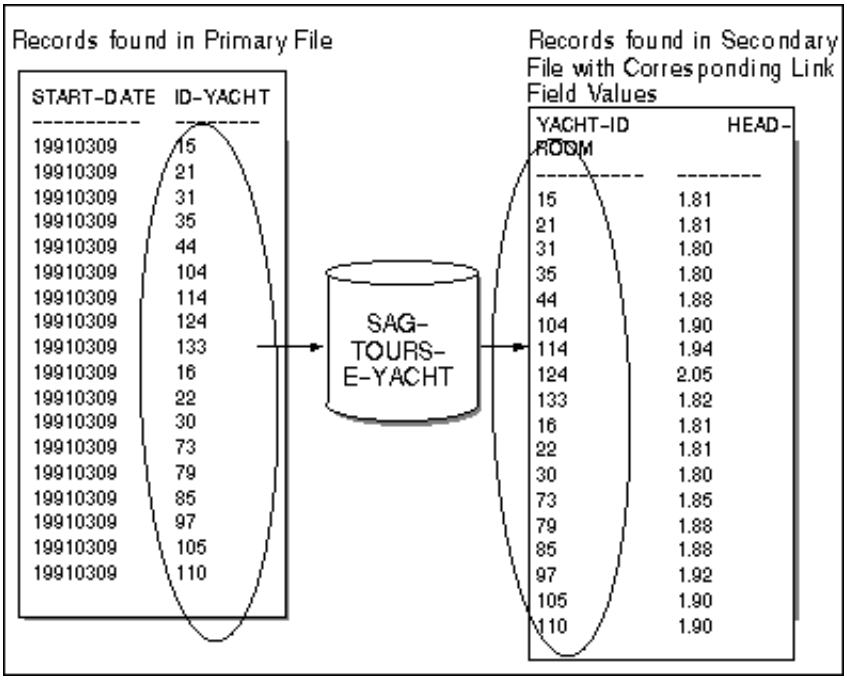
For further information on linking files, see**INCLUDE command** and **What is File Linking?** in Files in *Super Natural User's Guide*.

Super Natural searches the primary and secondary files as follows when the transaction is run:

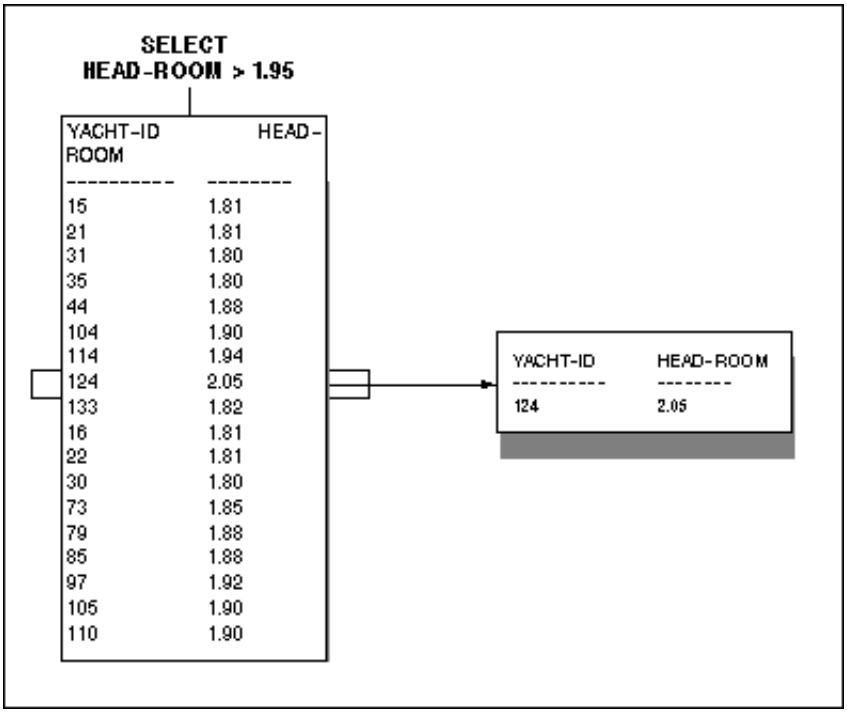
1. A search is made in the **SAG-TOURS-E-CRUISE** file for all records which meet the selection criterion START-DATE = 19910309. The following records are found:



1. When a record is found in the primary file, Super Natural takes the value of its link field (ID-YACHT) and searches the secondary file for records whose link field (YACHT-ID) has the same value. The following records are found:



1. The selection criterion HEAD-ROOM > 1.95 is applied to the records found in the secondary file. The following record is found.



Transaction Specification

Primary File	**SAG-TOURS-E-CRUISE**
Link field in primary file	ID-YACHT
Secondary File	**SAG-TOURS-E-YACHT**
Link field in secondary file	YACHT-ID
Selection Criteria	START-DATE = 19910309 AND HEAD-ROOM > 1.95
Display fields	1: YACHT-NAME 2: YACHT TYPE 3: START-DATE 4:HEAD-ROOM

This section covers the following topics:

- Create the Transaction SAMPLE6

Create the Transaction SAMPLE6

To Add a Transaction

1. Issue the `ADD TRANSACTION SAMPLE6` command.

   The Add Transaction window appears.

2. Type "File Link" in theDescription field (optional).

To Choose a Primary File

The report requires data from the primary file**SAG-TOURS-E-CRUISE**.

1. Type **SAG-TOURS-E-CRUISE** in the File Name field.
2. Press Enter.

   The Worksheet appears.

To Choose Secondary File

1. Issue the `INCLUDE` command.

   The Include Files window appears.

2. Enter **SAG-TOURS-E-YACHT** in the Secondary File field. You can also use the`Asterisk (*) List` function.

```
17:31                        ***** Super Natural *****                1998-05-13
SAMPLE6                            - Worksheet -                          SN3011

Ref DB    Field Name    +--------------------Include Files--------------------+
BE        _____________ !                                                     !
BF        _____________ ! Primary File ..... SAG-TOURS-E-CRUISE_____________ !
BG        _____________ ! Secondary File ... sag-tours-e-yacht_____________ !
BH        _____________ !                                                     !
BI        _____________ ! Add Lookup File .. ________________________________ !
BJ        _____________ ! Process Lookups .. _                               !
BK        _____________ !                                                     !
BL        _____________ +-----------------------------------------------------+
BM        ____________________________________   ___   ___   __   __   __   __
BN        ____________________________________   ___   ___   __   __   __   __
BO        ____________________________________   ___   ___   __   __   __   __
BP        ____________________________________   ___   ___   __   __   __   __
BQ        ____________________________________   ___   ___   __   __   __   __
BR        ____________________________________   ___   ___   __   __   __   __


Fill in required definitions
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit             Flip                                 Canc
```

The Define File Link window appears.

3. Type ID-YACHT in the Link Field in Primary File field.
4. Type YACHT-ID in the Link Field in Secondary File field.

```
17:31                        ***** Super Natural *****                1998-05-13
SAMPLE6                            - Worksheet -                          SN3011

Ref DB    Field Name    +--------------- +----------Define File Link----------+
BE        _____________ !                 !                                   !
BF        _____________ ! Primary File . ! Primary File                       !
BG        _____________ ! Secondary File !   SAG-TOURS-E-CRUISE               !
BH        _____________ !                 ! Link field in primary file        !
BI        _____________ ! Add Lookup Fil !   id-yacht_____________________ !
BJ        _____________ ! Process Lookup ! From position .. ...               !
BK        _____________ !                 !   to position .. ...              !
BL        _____________ +--------------- !                                   !
BM        ____________________________________ ! Secondary File               !
BN        ____________________________________ !   SAG-TOURS-E-YACHT           !
BO        ____________________________________ ! Link field in secondary file !
BP        ____________________________________ !   yacht-id_____________________ !
BQ        ____________________________________ !                               !
BR        ____________________________________ +-----------------------------------+
```

The fields ID-YACHT andYACHT-ID are used as link fields because they both have the format `N8` and contain comparable data. You can also use the `Asterisk (*) List` function to review the field list for each file.

5. Press Enter.

The Define File Link window closes.

6. Press Enter.

   The Include Files window closes.

To Choose Fields

The report requires data stored in the fieldsYACHT-NAME, YACHT-TYPE,START-DATE and HEAD-ROOM.

- Choose the fields as described in Step 3 of **Sample 1**.

To Determine Display Sequence for Horizontal Output

1. Type " 1" in the Sequence column next to the fieldYACHT-NAME.
2. Type "2" in the Sequence column next to the fieldYACHT-TYPE.
3. Type "3" in the Sequence column next to the fieldSTART-DATE.
4. Type "4" in the Sequence column next to the fieldHEAD-ROOM.

   The Worksheet now looks like this:

```
17:36                        ***** Super Natural *****                1998-05-13
SAMPLE6                            - Worksheet -                          SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AE  1K 2  START-DATE .....................    3__   ___   __   __   __   __
AL  1K    ID-YACHT .......................    ___   ___   __   __   __   __
BE  2K    YACHT-ID .......................    ___   ___   __   __   __   __
BF  2K    YACHT-NAME .....................    1__   ___   __   __   __   __
BK  2K    YACHT-TYPE .....................    2__   ___   __   __   __   __
BQ  2     HEAD-ROOM ......................    4__   ___   __   __   __   __
BS        ____________________________________   ___   ___   __   __   __   __
BT        ____________________________________   ___   ___   __   __   __   __
BU        ____________________________________   ___   ___   __   __   __   __
BV        ____________________________________   ___   ___   __   __   __   __
BW        ____________________________________   ___   ___   __   __   __   __
BX        ____________________________________   ___   ___   __   __   __   __
BY        ____________________________________   ___   ___   __   __   __   __
BZ        ____________________________________   ___   ___   __   __   __   __


Fill in required definitions
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc
```

   The "2"s in the DB column indicate that the fields they are next to are in the secondary file.

To Define Selection Criteria

1. Issue the SELECTION command. You can also abbreviate this command to SEL.

   The Selection Editor appears.
   The report requires information on a cruise which started on 9 March 1991 and used a yacht which had more head room than 1.95m.

2. Enter START-DATE = 19910309 AND HEAD-ROOM > 1.95 in the editor area.

```
17:37                        ***** Super Natural *****                  1998-05-13
SAMPLE6                         - Selection Editor -                      SNZUL-S


      1  < START-DATE = 19910309 AND HEAD-ROOM > 1.95                     >    1
      2  <                                                                >    2
      3  <                                                                >    3
      4  <                                                                >    4
      5  <                                                                >    5
      6  <                                                                >    6
      7  <                                                                >    7
      8  <                                                                >    8
      9  <                                                                >    9
     10  <                                                                >   10
     11  <                                                                >   11
     12  <                                                                >   12
     13  <                                                                >   13
     14  <                                                                >   14
     15  <                                                                >   15

SELECTION lines are correct
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip  -     +           Cont  Run   Canc
```

To Run the Transaction

1. Issue the RUN command.

   Because the headers of the fields you have chosen for display are too wide to fit on the standard page, the Report Line Length window appears.

2. Mark the option "Change to Report Type Vertical".

```
17:37                        ***** Super Natural *****                1998-05-13
SAMPLE6                         - Selection Editor -                     SNZUL-S

                           +----------------Report Line Length-----------------+
      1  < START-DATE = 1 !                                                    !
      2  <                ! The selected fields required a line size of .. 79 !
      3  <                ! The field headers required a line size of .... 82 !
      4  <                ! The available Online  line size at present ... 79 !
      5  <                !                                                    !
      6  <                !   -  Enlarge Available Line Size                   !
      7  <                !   x  Change to Report Type Vertical List           !
      8  <                !   _  Truncate Headers                              !
      9  <                !   _  Remove Excess Fields                          !
     10  <                !   _  Remove Excess Fields and Truncate Headers     !
     11  <                !   _  Modify Transaction                            !
     12  <                !                                                    !
     13  <                +----------------------------------------------------+
```

3. Press Enter.

   The report is generated. Part of the resulting report is shown below:

```
17:44:38  START-DATE = 19910309 AND HEAD-ROOM > 1.95                 1998-05-13
ISAMPL6                                                                1

YACHT-NAME ..................... CASABLANCA
YACHT-TYPE ..................... PACIFIC 52
START-DATE ..................... 19910309
HEAD-ROOM ...................... 2.05









Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip        +     Posi  <     >     Canc
```

Sample 7: File Lookup

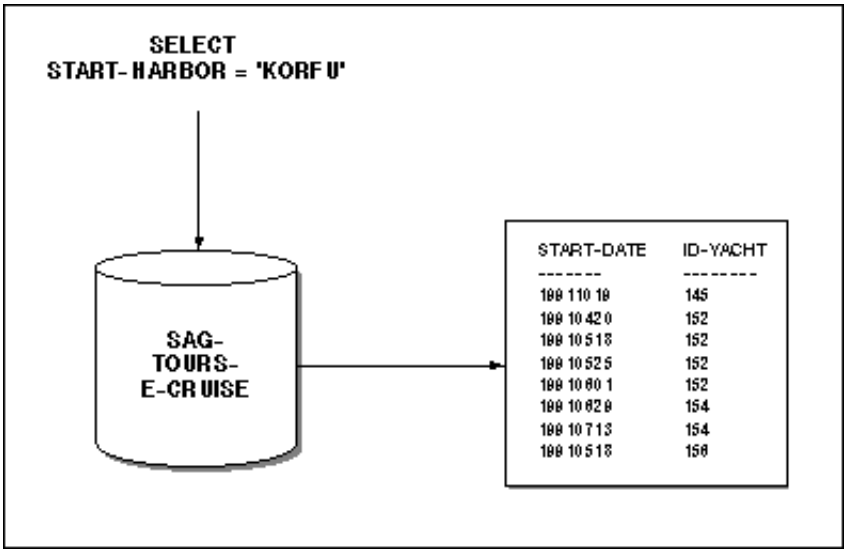
Task: List cruises starting in Korfu with their destination and starting date in order of starting date. List the type, name and length of the yachts which sail on these cruises.

Information on cruise starting harbor, starting date and cruise destination is stored in the file **SAG-TOURS-E-CRUISE**. Information on yacht length, type and name is stored in the file **SAG-TOURS-E-YACHT**. As each cruise can only have one value for destination, yacht length, name and type, you can take **SAG-TOURS-E-CRUISE** as the primary file and perform a lookup on the file **SAG-TOURS-E-YACHT** using the `INCLUDE` command.

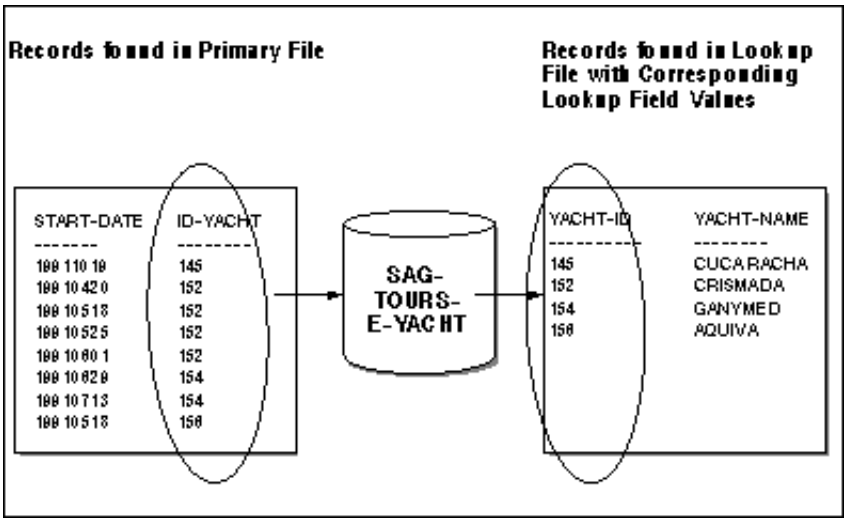
For further information on file lookup, see**INCLUDE command** and **What is File Lookup?** in Defining Files in *Super Natural User's Guide*.

Super Natural searches the primary file and lookup file as follows when the transaction is run:

1. A search is made in the **SAG-TOURS-E-CRUISE** file for all records which meet the selection criterion START-HARBOR = 'KORFU'. The following records are found:



1. For each record found in the primary file, Super Natural searches the lookup file (**SAG-TOURS-E-CRUISE**) for the *first* record where the value of the lookup field (ID-YACHT) is the same as that of the link field in the primary file record. The following records are found:



1. The records found in the primary file are returned and the desired information from the corresponding records in the lookup file is displayed.

Transaction Specification

Primary File	**SAG-TOURS-E-CRUISE**
Lookup Field In Primary File	ID-YACHT
Lookup File	**SAG-TOURS-E-YACHT**
Lookup Field In Lookup File	YACHT-ID
Selection Criteria	START-HARBOR = ’KORFU’
Display Fields	1: START-DATE 2:START-HARBOR 3:DESTINATION-HARBOR 4: YACHT-TYPE 5:YACHT-NAME 6:LENGTH
Sort Field	START-DATE

This section covers the following topics:

- Create the Transaction SAMPL7

Create the Transaction SAMPL7

To Add a Transaction

1. Issue the `ADD TRANSACTION SAMPLE7` command.

   The Add Transaction window appears.

2. Type " File Lookup" in theDescription field (optional).

To Choose a Primary File

The report requires data from the primary file**SAG-TOURS-E-CRUISE**.

1. Type **SAG-TOURS-E-CRUISE** in the File Name field.
2. Press Enter.

   The Worksheet appears.

To Choose Fields from Primary File

The report requires data stored in the primary file fieldsSTART-DATE, START-HARBOR andDESTINATION-HARBOR.

- Choose the fields as described in Step 3 of **Sample 1**.

To Choose Lookup File

1. Issue the `INCLUDE` command.

   The Include Files window appears.

2. Enter **SAG-TOURS-E-YACHT** in the Add File Lookup field. You can also use the `Asterisk (*) List` function.

```
12:36                      ***** Super Natural *****                1998-05-24
SAMPLE7                          - Worksheet -                          SN3011

Ref DB    Field Name    +--------------------Include Files--------------------+
AE  1K 2  START-DATE .. !                                                     !
AJ  1K    START-HARBOR  ! Primary File ..... SAG-TOURS-E-CRUISE_____________ !
AK  1K    DESTINATION-H ! Secondary File ... ___________________________________ !
BE        _____________ !                                                     !
BF        _____________ ! Add Lookup File .. sag-tours-e-yacht_____________ !
BG        _____________ ! Process Lookups .. _                                !
BH        _____________ !                                                     !
BI        _____________ +-----------------------------------------------------+
```

   The Define File Lookup window appears.

3. Type ID-YACHT in the Lookup Link Field field.
4. Type YACHT-ID in the Lookup Field in Lookup File field.

```
12:36                        ***** Super Natural *****                 1998-05-24
SAMPLE7                            - Worksheet -                          SN3011

Ref DB    Field Name    +- +---------------Define File Lookup---------------+
AE  1K 2  START-DATE .. !  !                                                 !
AJ  1K    START-HARBOR  !  ! Lookup link field                              !
AK  1K    DESTINATION-H !  !   id-yacht_____________________                !
BE        _____________ !  ! Lookup File                                    !
BF        _____________ !  !   SAG-TOURS-E-YACHT                          !
BG        _____________ !  ! Lookup field in lookup file                   !
BH        _____________ !  !   yacht-id____________________                !
BI        _____________ +- !                                                !
BJ        _________________ ! Lookup (1:1) ..................... Y   (Y/N)    !
BK        _________________ !   or enter N for lookup (1:n)                 !
BL        _________________ ! Process even if no records found .. Y   (Y/N)    !
BM        _________________ ! Search position ..................   3 (3 - 99) !
BN        _________________ !                                               !
BO        _________________ ! Select lookup display fields ...... X         !
                            !                                               !
                            +-----------------------------------------------+
```

The fields ID-YACHT andYACHT-ID are used as lookup fields because they both have the format `N8` and contain the same data. You can also use the `Asterisk (*) List` function to review the field list for each file.

5. Press Enter.

   Because the Select Lookup Display Fields field is marked by default, the Field Selection Listwindow for the lookup file appears.

To Choose Fields from Lookup File

The report requires data stored in the lookup file fieldsYACHT-TYPE, YACHT-NAME andLENGTH.

1. Mark the fields in the Field Selection List window.

```
12:36                        ***** Super Natural *****                 1998-05-24
SAMPLE7                            - Worksheet -                          SN3011

Ref DB    Field Name     +----------------Field Selection List----------------+
AE  1K 2  START-DATE ..  !     Field Name                        Format  Info !
AJ  1K    START-HARBOR   !  x  YACHT-NAME                        A30      _   !
AK  1K    DESTINATION-H  !  _  YACHT-BRANCH                      A1       _   !
BE        _____________  !  _  ID-CH-BASE                        A8       _   !
BF        _____________  !  _  ID-S-OWNER                        N8       _   !
BG        _____________  !  _  DID-DESCRIPTION                   A8       _   !
BH        _____________  !  x  YACHT-TYPE                        A30      -   !
BI        _____________  !  x  LENGTH                            P3.2     _   !
BJ        _____________  !  _  WIDTH                             P3.2     _   !
BK        _____________  !  _  DRAFT                             P3.2     _   !
BL        _____________  !  _  SAIL-SURFACE                      P3       _   !
BM        _____________  !  _  MOTOR                             P3       _   !
BN        _____________  !  _  HEAD-ROOM                         P3.2     _   !
BO        _____________  !  _  BUNKS                             P3       _   !
                         !                                                    !
                         +----------------------------------------------------+
```

2. Press Enter.

   The Field Selection List window closes.

3. Press Enter.

   The Define File Lookup window closes. TheInclude Files window now has a"1" next to the Process Lookupsfield to show that you have defined one lookup for the current transaction.

4. Press Enter.

5. The Worksheet reappears.

To Determine Display Sequence for Horizontal Output

1. Type "1" in the Sequence column next to the field START-DATE.
2. Type "2" in the Sequence column next to the field START-HARBOR.
3. Type" 3" in the Sequence column next to the field DESTINATION-HARBOR.
4. Type "4" in the Sequence column next to the field YACHT-TYPE.
5. Type "5" in the Sequence column next to the field YACHT-NAME.
6. Type "6" in the Sequence column next to the field LENGTH.

To Define Sort Criteria

The report requires that you sort the list according to cruise starting date.

1. Type "S1" in the Sort/Control (S/C) column next to the field START-DATE.
2. Press Enter.

   The Worksheet now has the following entries:

```
13:22                        ***** Super Natural *****                  1998-05-24
SAMPLE7                            - Worksheet -                            SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AE  1K 2  START-DATE ....................     1__   S1_   __   __   __   __
AJ  1K    START-HARBOR ..................     2__   ____  __   __   __   __
AK  1K    DESTINATION-HARBOR .............     3__   ____  __   __   __   __
AL  1K    ID-YACHT .......................     ____  ____  __   __   __   __
BE  LK 3  YACHT-ID .......................     ____  ____  __   __   __   __
BF  L  3  YACHT-NAME .....................     5__   ____  __   __   __   __
BG  L  3  YACHT-TYPE .....................     4__   ____  __   __   __   __
BH  L  3  LENGTH .........................     6__   ____  __   __   __   __
BI        ____________________________________  ____  ____  __   __   __   __
BJ        ____________________________________  ____  ____  __   __   __   __
BK        ____________________________________  ____  ____  __   __   __   __
BL        ____________________________________  ____  ____  __   __   __   __
BM        ____________________________________  ____  ____  __   __   __   __
BN        ____________________________________  ____  ____  __   __   __   __


Fill in required definitions
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc
```

The ’L’s in the Database (DB) column indicate that the fields next to them are in the lookup file. Note that the Sequence (Seq),Sort/Control (S/C), Function (Func) and Delete (Del) columns are protected for the field YACHT-IDwhich is the lookup field in the lookup file.

To Define Selection Criteria

1. Issue the SELECTION command. You can also abbreviate this command to SEL.

   The Selection Editor appears.
   The report requires information on cruises which start in Korfu.

2. Enter "START-HARBOR = ’KORFU’" in the editor area.

```
13:23                        ***** Super Natural *****                  1998-05-24
SAMPLE7                          - Selection Editor -                     SNZUL-S


      1  < START-HARBOR = ’KORFU’                                        >    1
      2  <                                                               >    2
      3  <                                                               >    3
```

Note:
You can not define selection criteria for fields contained in the lookup file.

To Run the Transaction

1. Issue the RUN command.

   Because the fields and the field headers you have chosen for display are too wide to fit on the standard page, the Report Line Length window appears.

2. Mark the option Enlarge Available Line Size.

```
13:23                      ***** Super Natural *****                1998-05-24
SAMPLE7                       - Selection Editor -                     SNZUL-S

                         +-----------------Report Line Length-----------------+
      1  < START-HARBOR  !                                                    !
      2  <               ! The selected fields required a line size of .. 121 !
      3  <               ! The field headers required a line size of .... 122 !
      4  <               ! The available Online  line size at present ... 79  !
      5  <               !                                                    !
      6  <               !   x  Enlarge Available Line Size                   !
      7  <               !   _  Change to Report Type Vertical List           !
      8  <               !   _  Truncate Headers                              !
      9  <               !   _  Remove Excess Fields                          !
     10  <               !   _  Remove Excess Fields and Truncate Headers     !
     11  <               !   _  Modify Transaction                            !
     12  <               !                                                    !
     13  <               +----------------------------------------------------+
```

3. Press Enter.

   The report is generated. Part of the resulting report is shown below:

```
13:24:51  START-HARBOR = 'KORFU'                                    1998-05-24
ISAMPLE7                                                              1

START-DATE     START-HARBOR      DESTINATION-HARBOR            YACHT-TYPE
---------- -------------------- -------------------- --------------------------

  19910420 KORFU                KEFALONIA            MIKADO 56
  19910518 KORFU                KORFU                MIKADO 56
  19910518 KORFU                REGGIO DI CALABRIA   15-M-STEILGAFFELSCHONER
  19910525 KORFU                KORFU                MIKADO 56
  19910601 KORFU                KEFALONIA            MIKADO 56
  19910629 KORFU                KORFU                FIRST 38 S
  19910713 KORFU                ZAKYNTHOS            FIRST 38 S
  19911019 KORFU                KALAMATA             SKORPION III









Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit             Flip        +     Posi  <     >     Canc
```

4. Use `PF11` and `PF10` to shift to the left and right in the report.

5. Use `PF9` to position the field at cursor position to the left-hand side of the screen.

Sample 8: Dynamic Input Fields

Task: Find the start date, end date and number of bunks of cruises whose start harbor begins with D or E and for cruises whose start harbor begins with U, V or W.

This transaction uses dynamic input fields to enable you to view different ranges of data each time you run it. The transaction uses the Layout Editor to show the range you are currently viewing in the title of the report.

Transaction Specification

Primary File	**SAG-TOURS-E-CRUISE**
Display Fields	1: START-HARBOR 2:START-DATE 3: END-DATE 4:BUNK-NUMBER
Dynamic Input Fields	HARBOR1 HARBOR2
Selection Criteria	START-HARBOR = HARBOR1 THRU HARBOR2

This section covers the following topics:

- Create the Transaction SAMPLE8

Create the Transaction SAMPLE8

To Add a Transaction

1. Issue the `ADD TRANSACTION SAMPLE8` command.

   The Add Transaction window appears with the transaction name already entered in the Transaction ID field.

2. Type the description "Dynamic Input Fields" in theDescription field (optional).

To Choose File

The report requires data from the file**SAG-TOURS-E-CRUISE**.

1. Type the file name **SAG-TOURS-E-CRUISE** in theFile Namefield. You can alternatively use the`Asterisk (*) List` function.

2. Press Enter.

   The Worksheet appears.

To Choose Fields

The report requires data stored in the fieldsSTART-HARBOR, START-DATE,END-DATE and BUNK-NUMBER.

1. Enter an "asterisk (*)" in the first position of theField Name column.

   The Field Selection List window appears.

2. Mark the fields START-HARBOR,START-DATE, END-DATE andBUNK-NUMBER.

   You must use PF2 to page forward toBUNK-NUMBER.

```
16:10                        ***** Super Natural *****                  1998-03-15
SAMPLE8                            - Worksheet -                          SN3011

Ref DB    Field Name     +----------------Field Selection List----------------+
BE        *______________ !     Field Name                        Format  Info !
BF        _______________ !  _  ID-SUCCESSOR                      N8      __   !
BG        _______________ !  _  CHARTER-CRUISE                    *G1     __   !
BH        _______________ !  _  CHARTER-YACHT-TYPE                A30     __   !
BI        _______________ !  _  ID-CHARTER-BASE                   A8      __   !
BJ        _______________ !  _  SAILING-CRUISE                    *G1     __   !
BK        _______________ !  _  ID-SKIPPER                        N8      __   !
BL        _______________ !  _  CRUISE-PRICE                      P10.3   __   !
BM        _______________ !  x  BUNK-NUMBER                       P3      __   !
BN        _______________ !  _  SAILOR                            *G2     __   !
BO        _______________ !  _  AGE                               P2      __   !
BP        _______________ !  _  NAME                              A30     __   !
BQ        _______________ !  _  EXPERIENCE                        A1      __   !
BR        _______________ !  _  LANGUAGES                         A3      __   !
                          !                                                    !
                          +More: - +-----------------------------------------+
```

3. Press Enter.

   The fields appear in the Field Namecolumn of the Worksheet.

   You can also enter the names directly into the Field Name column.

To Determine Display Sequence

1. Type "1" in the Sequence column next to the field START-HARBOR.
2. Type "2" in the Sequence column next to the field START-DATE.
3. Type "3" in the Sequence column next to the field END-DATE.
4. Type "4" in the Sequence column next to the field BUNK-NUMBER.

To Define Selection Criteria

The report requires information for cruises with a range of start harbors. You must define two dynamic input fields in which you can enter the first value of the field START-HARBOR you want to see and the last value you want to see when the transaction is run.

1. Press PF10.

   The SELECTION command is issued and the Selection Editor appears.

2. Enter "START-HARBOR =" in the editor area.

3. Press PF10.

   The CONTINUE command is issued and theValue window appears.

4. Select "Define Dynamic Input Field".

5. Press Enter.

   The Define User Field window appears.

6. Type "Start1" in the Name or Value field.

7. Overtype the existing entry in the Length field with 5.

```
17:15                      ***** Super Natural *****                1998-03-15
SAMPLE8                       - Selection Editor -                     SNZUL-S

                          +-----------------Define User Field-----------------+
      1  < START-HARBOR = ! Field:                                            !
      2  <                !                                                  !
      3  <                ! Name or value .. start1_____________________     !
      4  <                ! Format ......... A                               !
      5  <                ! Length ......... 5_                              !
      6  <                ! Dec. places .... _                               !
      7  <                ! Subfield of .... ________________________________ !
      8  <                ! Offset ......... ___                             !
      9  <                ! Dynamic input .. #                               !
     10  <                !                                                  !
     11  <                +--------------------------------------------------+
```

   The Dynamic Input field is already marked.

8. Press Enter.

   The field name START1 appears in the first editor line.

9. Type the logical operator THRU afterSTART1.

10. Press PF10.

    The CONTINUE command is issued and theValue window appears.

11. Select " Define Dynamic Input Field".

12. Press Enter.

    The Define User Field window appears.

13. Type "Start2" in the Name or Value field.
14. Overtype the existing entry in the Length field with 5.
15. Press Enter.

    The Selection Editor has the following content:

```
17.46                       ***** Super Natural *****                 1998-03-15
SAMPLE8                        - Selection Editor -                     SNZUL-S


      1  < START-HARBOR = START1 THRU START2                             >    1
      2  <                                                               >    2
      3  <                                                               >    3
      4  <                                                               >    4
      5  <                                                               >    5
```

Note:
You can also enter "START-HARBOR =START1 THRU START2" directly in the editor area and use the CHECKcommand to prompt you through defining the dynamic input fields.

To Edit the Title Element

1. Issue the LAYOUT command. You can abbreviate this command to LA.

   The Natural Report Manager Layout Overview screen appears:

```
10:36                    *** NATURAL REPORT MANAGER ***                 1998-03-16
Layout LSAMPLE8                 - Layout Overview -                       NRMPAGE

                    +-------------------------------------+
                    I                Title                I
                    +-------------------------------------+
                    +-------------------------------------+
                    I                Header               I
                    I                                     I
                    +-------------------------------------+
                    +-------------------------------------+
                    I                 List                I
                    I                                     I
                    I                                     I
                    I                                     I
                    I                                     I
                    I                                     I
                    I                                     I
                    I                                     I
                    +-------------------------------------+

Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip              Tech               Canc
```

2. Position the cursor in the Title layout element.

3. Press PF9.

   The Layout Editor appears with the default Title element in the editor area.

4. Enter the line command ..D3 in the first line of the editor area.

   The editor area is now empty.

5. Position the cursor in information section A where the transaction fields are displayed.

6. Press PF2 until the fields *DATX and*TIMX are displayed.

```
11:50                    *** NATURAL REPORT MANAGER ***               1998-03-16
Layout LSAMPLE8                 - Layout Editor -                       NRMEDIT
                                                                 More:       >
  Transaction Fields                        Delimiter Class    Attrib.  Color
1 START1                          A5        Blank     Text     Default
2 START2                          A5        _         Text     Intens.
3 *TIMX                           T         (         Output   Default
4 *DATX                           D         )         Output   Intens.
5 *PROGRAM                        A8
6 *PAGE-NUMBER                    P5.0      Escape Char. = .   Header Char. = &
All   ---010---+----+----+---030-- ( Title ) +---050---+----+----+---070--- Typ
                                                                          ___
                                                                          ___
                                                                          ___
                                                                          ___
                                                                          ___
                                                                          ___
                                                                          ___
                                                                          ___
                                                                          ___

Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc
```

7. Type "Run" on at position 10 in the second editor line.

8. Type the output delimiter for default output - here the open bracket character "(" followed by the number "4"to position the *DATX field after the text.

9. Press Enter.

10. Type at at position 26.

11. Type the output delimiter for default output - here the open bracket character "(" followed by the number "3"to position the *TIMX field after the text.

12. Type the text "Start harbors starting at position 10"in the third editor line.

13. Position the field Start1 with the output delimiter for intensified output - here the close bracket character ")"- at position 23.

14. Type the text up to but not including starting at position 30 in the third editor line.
15. Position the field Start2 with the output delimiter for intensified output - here the close bracket character ")" - at position 53.
16. Enter the line command `..I` in the third line of the editor area to insert an empty line after the title text.

    The editor area has the following content:

```
10:46                  *** NATURAL REPORT MANAGER ***              1998-03-17
Layout LSAMPLE8               - Layout Editor -                      NRMEDIT
                                                                More:       >
  Transaction Fields                      Delimiter Class    Attrib.  Color
1 CRUISE-ID                     N8.0      Blank     Text     Default
2 CRUISE-TYPE                   A1        _         Text     Intens.
3 CRUISE-STATUS                 A1        (         Output   Default
. START                         *G1       )         Output   Intens.
4 START-DATE                    N8.0
5 START-TIME                    N6.0      Escape Char. = .   Header Char. = &
All   ---010---+----+----+---030-- ( Title ) +---050---+----+----+---070--- Typ
                                                                          Ttl
          Run on(XXXXXXXX at(XXXXXXXX                                     Ttl
          Start harbors)XXXXX up to but not including)XXXXX               Ttl
                                                                          Ttl
                                                                          ___
                                                                          ___
                                                                          ___
                                                                          ___
                                                                          ___

Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc
```

To Run the Transaction

1. Press PF2.

   The Layout Overview screen appears.
2. Press PF8.

   The Worksheet appears:

```
15:16                      ***** Super Natural *****                1998-03-16
SAMPLE8                          - Worksheet -                          SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AE  1K 2  START-DATE ....................     L__   ___   __   __   __   __
AH  1K 2  END-DATE ......................     L__   ___   __   __   __   __
AJ  1K    START-HARBOR ..................     L__   ___   __   __   __   __
AU  1  2  BUNK-NUMBER ...................     L__   ___   __   __   __   __
BE   #    START1 ........................     L__   ___   __   __   __   __
BF   #    START2 ........................     L__   ___   __   __   __   __
BK   V    *DATX ..........................     L__   ___   __   __   __   __
BL   V    *TIMX ..........................     L__   ___   __   __   __   __
BM        ____________________________________   ___   ___   __   __   __   __
BN        ____________________________________   ___   ___   __   __   __   __
BO        ____________________________________   ___   ___   __   __   __   __
BP        ____________________________________   ___   ___   __   __   __   __
BQ        ____________________________________   ___   ___   __   __   __   __
BR        ____________________________________   ___   ___   __   __   __   __


Layout has been successfully modified
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip    -     +         Sel   Run   Canc
```

You can now either save the transaction and execute it later or you can run it to see the report immediately.

3. Issue the RUN command. This command is allocated to PF11.

   You can also issue the RUN command directly from the Layout Editor.

   The Dynamic Input Value window appears:

```
15:16                      ***** Super Natural *****                  1998-03-16
SAMPLE8                          - Worksheet -                            SN3011

Ref DB    Field Name                          Seq    +-- Dynamic Input Value --+
AE  1K 2  START-DATE ....................     L__    !  Transaction:  ISAMPLE8 !
AH  1K 2  END-DATE ......................     L__    !                         !
AJ  1K    START-HARBOR ..................     L__    ! START1 .. _____         !
AU  1  2  BUNK-NUMBER ...................     L__    ! START2 .. _____         !
BE   #    START1 ........................     L__    +-------------------------+
```

4. Type "D" in the Start1field.
5. Type "F" in the Start2field.

   This will find start harbors which begin with Dor E. If there is a start harbor with the nameF, it will also be displayed.

6. Press Enter.

   The report is generated:

```
         Run on 1998-03-17 at 11:45:03

         Start harbors D     up to but not including F

    START-HARBOR     START-DATE END-DATE  BUNK-NUMBER
-------------------- ---------- --------- -----------

DAKKAR                 19910818  19910921           5
DUBROVNIK              19910406  19910419           7
EL SALVADOR            19920412  19920425           4
ELBA                   19911012  19911025           6
ELBA                   19910915  19910928           4
ELBA                   19910907  19910920           6
ESPIRITO SANTO         19911020  19911109           5









Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip          +                     Canc
```

```
         Run on 1998-03-17 at 11:45:03

         Start harbors D     up to but not including F

    START-HARBOR     START-DATE END-DATE  BUNK-NUMBER
-------------------- ---------- --------- -----------

 *** End of report ***

 Number of records processed: = 7
```

7. Press Enter.

   The Worksheet appears.

8. Press PF11

   The Dynamic Input Value window appears.

9. Type "U" in the Start1field.

10. Type "W" in the Start2field.

11. Press Enter.

    The report is generated:

```
         Run on 1998-03-17 at 11:58:04

         Start harbors U     up to but not including W

    START-HARBOR     START-DATE END-DATE  BUNK-NUMBER
-------------------- ---------- --------- -----------

VALENCIA               19920516  19920529           4
VALENCIA               19911005  19911018           6
VILAMOURA              19920104  19920117           6
VILAMOURA              19920215  19920228           6
VILAMOURA              19920404  19920417           4
VIRGIN ISLANDS         19920405  19920418           6
VIRGIN ISLANDS         19920419  19920509           6
VIRGIN ISLANDS         19910209  19910223           6




Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip          +                     Canc
```

```
         Run on 1998-03-17 at 11:58:04

         Start harbors U     up to but not including W

    START-HARBOR     START-DATE END-DATE  BUNK-NUMBER
-------------------- ---------- --------- -----------

 *** End of report ***

 Number of records processed: = 8
```

Note:
Notice the new data in the title.

Sample 9: RPC Service in Context Mode with Primary, Secondary and Lookup files

Task: Generate an RPC service based on the travelling information to process on your PC via Excel.

The RPC Generation is executed in Context mode.

Prerequisites

Your administrator has to set the Service Type of the Service Generation Options in you user profile to R.

If you Server is running under Natural Security, you have to set up your RPC example client to run this example correctly.

To set up the RPC sample client for Natural Security

1. Execute the Program **USR1071P** from the system library**SYSEXT** in your Natural for Windows.
2. Fill the following fields in the appearing screens as follows:
   - Set RPC Data field to X
   - Set Code field to T
   - Set User-ID field to the Logon-ID of Natural Mainframe
   - Set User ID’s Password field to the Password of Natural Mainframe

Transaction Specification

Primary File	**SAG-TOURS-E-YACHT**
Secondary File	**SAG-TOURS-E-CRUISE**
Link field in primary file	YACHT-ID
Link field in secondary file	ID-YACHT
Lookup File	**SAG-TOURS-E-PERSON**
Link field in secondary file	ID-SKIPPER
Link field in lookup file	PERSON-ID
Display Fields	1: YACHT-NAME 2:YACHT-ID 3: START-DATE 4:START-HARBOR 5:DESTINATION-HARBOR 6:FIRST-NAME-1 7:SURNAME 8:COUNTRY
Selection Criteria	YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0

This section covers the following topics:

- Create the Transaction SAMPLE9
- Generate the RPC Service
- Proceed the data on your PC

Create the Transaction SAMPLE9

To Add a Transaction

1. Issue the `ADD TRANSACTION SAMPLE9` command.

   The Add Transaction window appears with the transaction name already entered in the Transaction IDfield.

2. Type the description "Context Mode with Primary, Secondary and Lookup Files" in the Description field (optional).

To Choose Primary File

The report requires data from the file**SAG-TOURS-E-YACHT**.

1. Type the file name **SAG-TOURS-E-YACHT** in the FileName field. You can alternatively use the `Asterisk (*) List` function.

2. Press Enter.

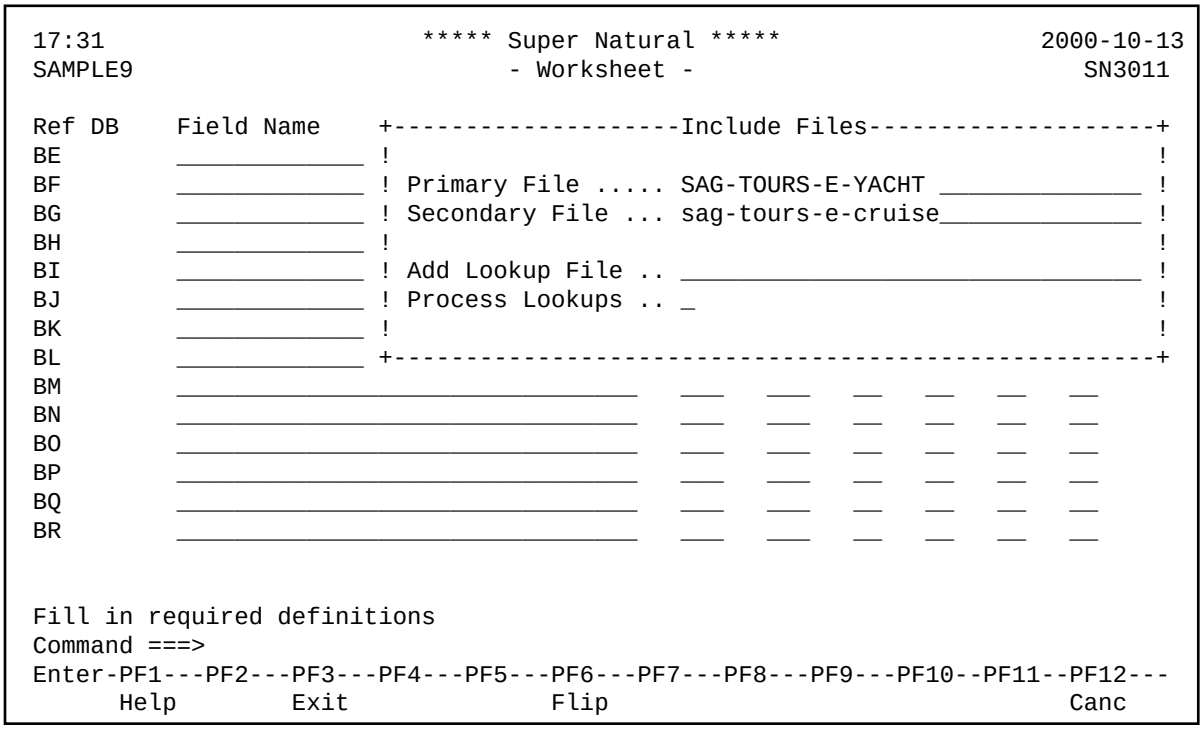
   The Worksheet appears.

To Choose Secondary File

1. Issue the `INCLUDE` command

   The Include Files window appears.

2. Enter **SAG-TOURS-E-CRUISE** in the Secondary File field.



Note:
You can also use the `Asterisk (*) List`function.

   The Define File Link window appears.

3. Type YACHT-ID in the Link Field in Primary File field.

4. Type ID-YACHT in the Link Field in Secondary File field.

```
17:31                        ***** Super Natural *****                  2000-10-13
SAMPLE9                            - Worksheet -                         SN3011

Ref DB    Field Name    +--------------- +----------Define File Link----------+
BE        _____________ !                !                                    !
BF        _____________ ! Primary File . ! Primary File                       !
BG        _____________ ! Secondary File !   SAG-TOURS-E-YACHT                 !
BH        _____________ !                ! Link field in primary file        !
BI        _____________ ! Add Lookup Fil !   yacht-id_____________________     !
BJ        _____________ ! Process Lookup ! From position .. ...              !
BK        _____________ !                !   to position .. ...              !
BL        _____________ +--------------- !                                    !
BM        ____________________________________ ! Secondary File               !
BN        ____________________________________ !   SAG-TOURS-E-CRUISE          !
BO        ____________________________________ ! Link field in secondary file !
BP        ____________________________________ !   id-yacht_____________________ !
BQ        ____________________________________ !                              !
BR        ____________________________________ +--------------------------------+
```

Note:
You can also use the `Asterisk (*) List`function to review the field list for each file.

5. Press Enter.

   The Define File Link window closes.

6. Press Enter.

   The Include Files window closes.

To Choose Lookup File

1. Issue the `INCLUDE` command.

   The Include Files window appears.

2. Enter **SAG-TOURS-E-PERSON** in the Add Lookup File field.

   Note:
   You can also use the `Asterisk (*) List`function.

   The Define File Lookup window appears.

3. Type ID-SKIPPER in the Lookup Link File field.

4. Type PERSON-ID in the Lookup Field in Lookup File.

   Note:
   You can also use the `Asterisk (*) List`function to review the field list for each file.

5. Press Enter.

   Because the Select Lookup Display Fields field is marked by default, the Field Selection List window for the lookup file appears.

6. Mark the fieldsSURNAME,FIRST-NAME-1 and COUNTRY to select them.

To Choose Fields

The report requires data stored in the fieldsYACHT-ID, YACHT-NAME, START-DATE, START-HARBOR, DESTINATION-HARBOR, ID-YACHT, ID-SKIPPER, PERSON-ID, SURNAME, FIRST-NAME-1, COUNTRY.

1. Choose the fields as described in Step 3 of **Sample 1**.

To Determine Display Sequence

1. Type "1" in the Sequence column next to the field YACHT-NAME.
2. Type "2" in the Sequence column next to the field YACHT-ID.
3. Type "3" in the Sequence column next to the field START-DATE.
4. Type "4" in the Sequence column next to the field START-HARBOR.
5. Type "5" in the Sequence column next to the field DESTINATION-HARBOR.
6. Type "6" in the Sequence column next to the field FIRST-NAME-1.
7. Type "7" in the Sequence column next to the field SURNAME.
8. Type " 8" in the Sequence column next to the field COUNTRY.

   Now your worksheet looks as follows:

```
18:27                        ***** SUPER NATURAL *****                2000-09-29
SAMPLE9                            - Worksheet -                          SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AA  1K    YACHT-ID ......................     2__   ___   __   __   __
AB  1K    YACHT-NAME ....................     1__   ___   __   __   __
AS  2K 2  START-DATE ....................     3__   ___   __   __   __
AX  2K    START-HARBOR ..................     4__   ___   __   __   __
AY  2K    DESTINATION-HARBOR ............     5__   ___   __   __   __
AZ  2K    ID-YACHT ......................     ___   ___   __   __   __
BG  2K 2  ID-SKIPPER ....................     ___   ___   __   __   __
BS  LK 3  PERSON-ID .....................                 __   __
BT  L  3  SURNAME .......................     7__   ___   __   __   __
BU  L  3  FIRST-NAME-1 ..................     6__   ___   __   __   __
BX  L  3  COUNTRY .......................     8__   ___   __   __   __
BY        ____________________________________
BZ        ____________________________________
CA        ____________________________________


Transaction SAMPLE9 successfully executed
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip    -     +         Sel   Run   Canc
```

To Define Selection Criteria

The report requires information on the Yacht-IDs and the Skipper-IDs.

1. Press PF10.

   The SELECTION command is issued and the Selection Editor appears.

2. Enter "YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0" in the editor area.

   The Selection Editor has the following content:

```
18:19                        ***** SUPER NATURAL *****                  2000-09-29
SAMPLE9                         - Selection Editor -                      SNZUL-S


      1  < YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0                  >    1
      2  <                                                               >    2
      3  <                                                               >    3
      4  <                                                               >    4
      5  <                                                               >    5
      6  <                                                               >    6
      7  <                                                               >    7
      8  <                                                               >    8
      9  <                                                               >    9
     10  <                                                               >   10
     11  <                                                               >   11
     12  <                                                               >   12
     13  <                                                               >   13
     14  <                                                               >   14
     15  <                                                               >   15

Define selection lines or use CONTINUE
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip    -     +         Cont  Run   Canc
```

Note:
You can use the CHECK command to prompt you through defining the dynamic input fields.

To Run the Transaction

1. Issue the RUN command. This command is allocated to PF11.

2. Press Enter.

   The report is displayed:

```
2000-09-29  YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0                 1
18:25:10
ISAMPLE9
          YACHT-NAME           YACHT-ID  START-DATE     START-HARBOR      DESTI
------------------------------ --------- ---------- -------------------- ------

FLYING DUTCHMAN                     144   19911012 ELBA                 ALGHER
FLYING DUTCHMAN                     144   19911026 ALGHERO              PALMA
FLYING DUTCHMAN                     144   19911109 PALMA                ANDRAI
FLYING DUTCHMAN                     144   19911123 ANDRAITX             ALICAN
FLYING DUTCHMAN                     144   19911207 ALICANTE             MALAGA
FLYING DUTCHMAN                     144   19911221 MALAGA               VILAMO
FLYING DUTCHMAN                     144   19920104 VILAMOURA            HUELVA
FLYING DUTCHMAN                     144   19920118 HUELVA               CADIZ
FLYING DUTCHMAN                     144   19920201 CADIZ                VILAMO
FLYING DUTCHMAN                     144   19920215 VILAMOURA            HUELVA
FLYING DUTCHMAN                     144   19920229 HUELVA               JOSE B
CUCA RACHA                          145   19911019 KORFU                KALAMA
CUCA RACHA                          145   19911005 AQUILEIA             KORFU
CUCA RACHA                          145   19911102 KALAMATA             HERAKL
CUCA RACHA                          145   19911116 HERAKLEION           HERAKL

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit             Flip          +   Posi    <     >   Canc
```

```
2000-09-29  YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0                15
18:27:14
ISAMPLE9
          YACHT-NAME           YACHT-ID  START-DATE     START-HARBOR      DESTI
------------------------------ --------- ---------- -------------------- ------

 *** End of report ***

 Number of records processed: = 196
```

3. Press PF3.

   The Worksheet appears:

```
18:27                        ***** SUPER NATURAL *****                 2000-09-29
SAMPLE9                            - Worksheet -                          SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AA  1K    YACHT-ID ......................     2__   ___   __   __   __
AB  1K    YACHT-NAME ....................     1__   ___   __   __   __
AS  2K 2  START-DATE ....................     3__   ___   __   __   __
AX  2K    START-HARBOR ..................     4__   ___   __   __   __
AY  2K    DESTINATION-HARBOR ............     5__   ___   __   __   __
AZ  2K    ID-YACHT ......................     ___   ___   __   __   __
BG  2K 2  ID-SKIPPER ....................     ___   ___   __   __   __
BS  LK 3  PERSON-ID .....................                 __   __
BT  L  3  SURNAME .......................     7__   ___   __   __   __
BU  L  3  FIRST-NAME-1 ..................     6__   ___   __   __   __
BX  L  3  COUNTRY .......................     8__   ___   __   __   __
BY        _____________________________________
BZ        _____________________________________
CA        _____________________________________


Transaction SAMPLE9 successfully executed
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip    -     +         Sel   Run   Canc
```

Generate the RPC Service

To generate the RPC Service for the transaction SAMPLE9

1. Issue the command `GENERATE RPC` in the Worksheet of the transaction SAMPLE9 and press Enter.

   The following window appears:

```
18:27                        ***** SUPER NATURAL *****                 2000-09-29
SAMPLE9                            - Worksheet -                          SN3011
                                     !-----------------------------------------!
Ref DB    Field Name                 !          RPC-Service Generation         !
AA  1K    YACHT-ID ................. !                                         !
AB  1K    YACHT-NAME ............... !  The RPC Service will be stored with    !
AS  2K 2  START-DATE ............... !      Object Name ..............         !
AX  2K    START-HARBOR ............. !      in Library ...............         !
AY  2K    DESTINATION-HARBOR ...... !      with Generation Mode ..... Context !
AZ  2K    ID-YACHT ................. !      and Result Record Limit .. 1092    !
BG  2K 2  ID-SKIPPER ..............  !                                         !
BS  LK 3  PERSON-ID ............... !    _  Generate with these options       !
BT  L  3  SURNAME ................. !    X  Change options before generation  !
BU  L  3  FIRST-NAME-1 ............ !    _  Modify Transaction                 !
BX  L  3  COUNTRY ................. !-----------------------------------------!
BY        ____________________________
BZ        _____________________________________
CA        _____________________________________



Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                    Flip                                  Canc
```

2. Mark the option Change options before generation and press Enter.

   The following window appears:

```
19:49                        ***** SUPER NATURAL *****                 2000-10-17
SAMPLE9                            - Worksheet -                          SN3011
                                 !-----------------------------------------------!
Ref DB    Field Name             !   RPC-Service - Modify Generation Options     !
AA  1K    YACHT-ID ...........   !                                               !
AB  1K    YACHT-NAME .........   !  RPC Service Object Name ........             !
AS  2K 2  START-DATE .........   !              Library ............             !
AX  2K    START-HARBOR .......   !                                               !
AY  2K    DESTINATION-HARBOR .   !  Generation Mode ................ C  Context !
AZ  2K    ID-YACHT ...........   !  Limit of Result Records ........ 1092___    !
BG  2K 2  ID-SKIPPER .........   !  (Max. possible Result Records .. 1092    )  !
BS  LK 3  PERSON-ID ..........   !-----------------------------------------------!
BT  L  3  SURNAME ............          !                             !
BU  L  3  FIRST-NAME-1 .............    ! _  Modify Transaction     !
BX  L  3  COUNTRY ..................    !--------------------------!
BY        _____________________________
BZ        _____________________________________
CA        _____________________________________



Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                    Flip                                 Canc
```

3. Specify the RPC Service Object Name "RPCSMPL1" and the Library "NSNSAMPL" to generate the RPC Service.

4. Select Generation Mode Context.

5. Delete the Record Limit and press Enter to receive the recommended record limit for the generation.

6. Press Enter.

   The RPC Service is generated. You can view it by logging on to the respective library and choosing the RPC Service Object. You will find the description of the source in the *Super Natural Administration Manual*.

Proceed the data on your PC

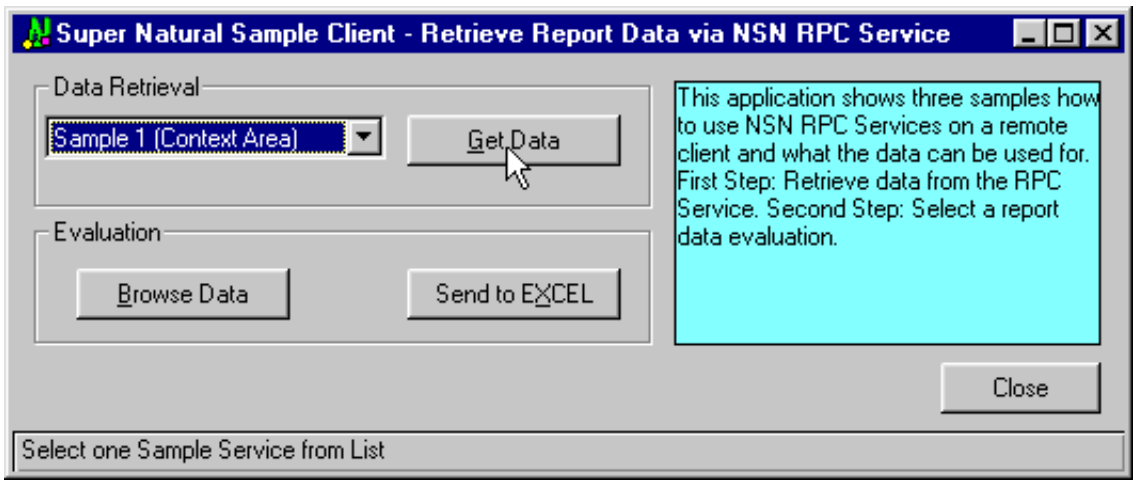
To proceed the data on your PC

Before you can work with the generated RPC Service, you have to set up your Natural environment and load the example data from the Documentation CD to your Natural for Windows environment. You will find the description how to set up your environment for the RPC Service in the *Super Natural Installation Manual*.

1. Open your Natural for Windows.

2. Execute **User Libraries** > **NSNSAMPL** > **Dialogs** > **Menu** by using the `Execute` button in the symbol list.

   The following dialog appears:



3. Select **Sample 1** (Context Area) in the Data Retrieval field.

4. Choose `Get Data` to load the sample data.

   Now you can browse the data.

5. In order to proceed with this data on your PC, send it to Excel by selecting the `Send to Excel` button.

   The data is sent to Excel and inserted into a table.

Sample 10: RPC Service in Context Mode with Dynamic Input

Task: Generate an RPC service based on travelling information by entering a start and end value. Then process the service on your PC via Excel.

This transaction uses dynamic input fields to enable you to view different ranges of data each time you run it. The RPC Generation is executed in Context mode.

Prerequisites

Your administrator has to set the Service Type of the Service Generation Options in you user profile to R.

If you Server is running under Natural Security, you have to set up your RPC example client to run this example correctly.

To set up the RPC sample client for Natural Security

1. Execute the Program **USR1071P** from the system library**SYSEXT** in your Natural for Windows.
2. Fill the following fields in the appearing screens as follows:
   - Set RPC Data field toX
   - Set Code field to T
   - Set User-ID field to the Logon-ID of Natural Mainframe
   - Set User ID’s Password field to the Password of Natural Mainframe

Transaction Specification

Primary File	**SAG-TOURS-E-PERSON**
Display Fields	1: FIRST-NAME-1 2:SURNAME 4:STREET-NUMBER 6:ZIP-CODE 7: CITY 9:COUNTRY
Sort Fields	S1: COUNTRY S2:SURNAME
Dynamic Input Fields	NAME-START NAME-END
Selection Criteria	SURNAME = NAME-START THRU NAME-END

This section covers the following topics:

- Create the Transaction SAMPLE10
- Generate the RPC Service
- Proceed the data on your PC

Create the Transaction SAMPLE10

To Add a Transaction

1. Issue the `ADD TRANSACTION SAMPLE10` command.

   The Add Transaction window appears with the transaction name already entered in the Transaction IDfield.

2. Type the description "Dynamic Input Fields in the Description field" (optional).

To Choose File

The report requires data from the file**SAG-TOURS-E-PERSON**.

1. Type the file name **SAG-TOURS-E-PERSON** in theFile Name field. You can alternatively use the `Asterisk (*) List` function.
2. Press Enter.

   The Worksheet appears.

To Choose Fields

The report requires data stored in the fieldsSURNAME, FIRST-NAME-1, STREET-NUMBER,COUNTRY, ZIP-CODE and CITY.

1. Choose the fields as described in Step 3 of **Sample 1**.

To Determine Display Sequence

1. Type " 1" in the Sequence column next to the field FIRST-NAME-1.
2. Type "2" in the Sequence column next to the field SURNAME.
3. Type " 4" in the Sequence column next to the field STREET-NUMBER.
4. Type "6" in the Sequence column next to the field ZIP-CODE.
5. Type "7" in the Sequence column next to the field CITY.
6. Type "9" in the Sequence column next to the field COUNTRY.

To Define Sort Order

1. Type "S1" in the S/C column next to the field COUNTRY.
2. Type "S2" in the S/C column next to the field SURNAME.

To Define Dynamic Input Fields

1. Type NAME-START into the Field Name column and press Enter.

   The Define User Field window appears:

2. Fill in the required information as shown in the following screen:

```
20:10                        ***** SUPER NATURAL *****                 2000-10-17
SAMPLE10                            - Worksheet -                          SN3011
                            !-----------------------------------------------------!
Ref DB    Field Name        !                  Define User Field                  !
AE  1K 2  SURNAME ....... !  Field: NAME-START                                   !
AF  1  2  FIRST-NAME-1 .. !                                                      !
AL  1  2  STREET-NUMBER . !  Name or value .. NAME-START____________________     !
AM  1K 2  COUNTRY ....... !  Format ......... a                                  !
AN  1K 2  ZIP-CODE ...... !  Length ......... 20_                                !
AO  1K 2  CITY .......... !  Dec. places .... _                                  !
BI        NAME-START .... !  Subfield of .... ________________________________   !
BJ        _______________ !  Offset ......... ___                                !
BK        _______________ !  Dynamic input .. #                                  !
BL        _______________ !-----------------------------------------------------!
BM        _______________
BN        ________________________________
BO        ________________________________
BP        ________________________________



Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit              Flip                                  Canc
```

3. Press Enter.

   The Worksheet appears. The field NAME-START is inserted as a dynamic input field.

4. Proceed for the dynamic input field NAME-END just asNAME-START.

   Now your Worksheet looks as follows:

```
20:18                        ***** SUPER NATURAL *****                  2000-10-17
A-SMPL2                             - Worksheet -                          SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AE  1K 2  SURNAME .......................     2__   S2_   __   __   __
AF  1  2  FIRST-NAME-1 ..................     1__   ___   __   __   __
AL  1  2  STREET-NUMBER .................     4__   ___   __   __   __
AM  1K 2  COUNTRY .......................     9__   S1_   __   __   __
AN  1K 2  ZIP-CODE ......................     6__   ___   __   __   __
AO  1K 2  CITY ..........................     7__   ___   __   __   __
BI   #    NAME-START ....................     ___   ___   __   __   __
BJ   #    NAME-END ......................     ___   ___   __   __   __
BK        ____________________________________
BL        ____________________________________
BM        ____________________________________
BN        ____________________________________
BO        ____________________________________
BP        ____________________________________


Fill in required definitions
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip    -     +         Sel   Run   Canc
```

To Define Selection Criteria

The report requires information on the fieldSURNAME. You must use two dynamic input fields in which you can enter the first value of the field SURNAME you want to see and the last value you want to see when the transaction is run.

1. Press `PF10`.

   The `SELECTION` command is issued and the Selection Editor appears.

2. Enter "SURNAME = NAME-START THRU NAME-END" in the editor area.

   The Selection Editor has the following content:

```
10:08                        ***** SUPER NATURAL *****                  2000-10-04
SAMPLE10                         - Selection Editor -                       SNZUL-S


      1  < SURNAME = NAME-START THRU NAME-END                              >    1
      2  <                                                                 >    2
      3  <                                                                 >    3
      4  <                                                                 >    4
      5  <                                                                 >    5
      6  <                                                                 >    6
      7  <                                                                 >    7
      8  <                                                                 >    8
      9  <                                                                 >    9
     10  <                                                                 >   10
     11  <                                                                 >   11
     12  <                                                                 >   12
     13  <                                                                 >   13
     14  <                                                                 >   14
     15  <                                                                 >   15

Define selection lines or use CONTINUE
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip    -     +         Cont  Run   Canc
```

To Run the Transaction

1. Issue the RUN command. This command is allocated to PF11.
2. Press Enter

   The following dialog appears:

```
10:08                        ***** SUPER NATURAL *****                  2000-10-04
SAMPLE10                         - Selection Editor -                       SNZUL-S
                                      !-------------------------------------!
                                      !         Dynamic Input Value         !
      1  < SURNAME = NAME-START THRU NAM !   Transaction:  SAMPLE10          !
      2  <                            !                                     !
      3  <                            !  NAME-START .. g_____________________ !
      4  <                            !  NAME-END .... k_____________________ !
      5  <                            !                                     !
      6  <                            !-------------------------------------!
      7  <                                                                 >    7
      8  <                                                                 >    8
      9  <                                                                 >    9
     10  <                                                                 >   10
     11  <                                                                 >   11
     12  <                                                                 >   12
     13  <                                                                 >   13
     14  <                                                                 >   14
     15  <                                                                 >   15

Define selection lines or use CONTINUE

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
           Print Exit              Flip          +   Posi    <     >   Canc
```

3. Enter the Start and End value and press Enter.

   The report is displayed:

```
2000-10-04  SURNAME = NAME-START THRU NAME-END                          1
10:13:20
SAMPLE10
    FIRST-NAME-1           SURNAME           STREET-NUMBER      ZIP-CODE
-------------------- -------------------- -------------------- ---------- -----

ANDREAS              GASSNER              KAERTNER STR. 9      7000       STUTT
PETRA                GOLDSTEIN            WALDWEG 8            8190       WOLFR
HEINZ                GRAF                 SCHLOSSWEG 1         6100       GRIES
MARGARETHE           GROTH                BEETHOVENSTR. 34     6000       FRANK
JOPP                 GROTHE               WIELANDSTR. 109      6000       FRANK
FLORIAN              GRUBER               DIEBURGERSTR. 54     6100       DARMS
ESTER                GRUENBERG            ROSENWEG 17          6103       GRIES
MARTHA               GUHLICH              THERESE GIESE STR 89 6450       HANAU
ROSWITHA             HAIBACH              POSTFACH 332         6450       HANAU
YASMIN               HASSEIN              DOMWEG 8             6000       FRANK
CORNELIA             HECK                 MARIENSTRASSE 18     8000       MUENC
CLEMENS              HEILBROCK            OPELSTRASSE 49       6000       FRANK
GERHARD              HEINZELMANN          VIKTORIASTR. 43      6100       DARMS
JOHANNA              HELDMANN             DARMSTAEDTERWEG 34   6104       SEEHE
ANTON                HESCHMANN            MEERKATZSTR. 8       6000       FRANK

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
           Print Exit              Flip          +   Posi    <     >   Canc
```

```
2000-10-04  SURNAME = NAME-START THRU NAME-END                         13
10:14:11
SAMPLE10
    FIRST-NAME-1           SURNAME           STREET-NUMBER      ZIP-CODE
-------------------- -------------------- -------------------- ---------- -----

 *** End of report ***

 Number of records processed: = 178
```

4. Press PF3.

   The Worksheet appears:

```
10:15                          ***** SUPER NATURAL *****                  2000-10-04
SAMPLE10                              - Worksheet -                           SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AE  1K 2  SURNAME .......................     2__   S2_   __   __   __
AF  1  2  FIRST-NAME-1 ..................     1__   ___   __   __   __
AL  1  2  STREET-NUMBER .................     4__   ___   __   __   __
AM  1K 2  COUNTRY .......................     9__   S1_   __   __   __
AN  1K 2  ZIP-CODE ......................     6__   ___   __   __   __
AO  1K 2  CITY ..........................     7__   ___   __   __   __
BI   #    NAME-START ....................     ___   ___   __   __   __
BJ   #    NAME-END ......................     ___   ___   __   __   __
BK        ____________________________________
BL        ____________________________________
BM        ____________________________________
BN        ____________________________________
BO        ____________________________________
BP        ____________________________________


SELECTION successfully terminated
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip    -     +         Sel   Run   Canc
```

Generate the RPC Service

To generate the RPC Service for the transaction SAMPLE10

1. Issue the command `GENERATE RPC` in the Worksheet of the transaction SAMPLE10 and press Enter.

   The following window appears:

```
10:15                          ***** SUPER NATURAL *****                  2000-10-04
SAMPLE10                              - Worksheet -                           SN3011
                                 !-----------------------------------------!
Ref DB    Field Name             !         RPC-Service Generation          !
AE  1K 2  SURNAME ..............  !                                         !
AF  1  2  FIRST-NAME-1 .........  ! The RPC Service will be stored with     !
AL  1  2  STREET-NUMBER ........  !     Object Name ............            !
AM  1K 2  COUNTRY ..............  !     in Library .............            !
AN  1K 2  ZIP-CODE .............  !     with Generation Mode ..... Context  !
AO  1K 2  CITY .................  !     and Result Record Limit .. 1638     !
BI   #    NAME-START ...........  !                                         !
BJ   #    NAME-END .............  !   _  Generate with these options       !
BK        ____________________    !   X  Change options before generation  !
BL        ____________________    !   _  Modify Transaction                 !
BM        ____________________    !-----------------------------------------!
BN        ____________________
BO        ____________________________________
BP        ____________________________________



Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                  Flip                                   Canc
```

2. Mark the option Change options before generation and press Enter.

   The following window appears:

```
20:18                        ***** SUPER NATURAL *****                 2000-10-17
A-SMPL2                            - Worksheet -                           SN3011
                                 !-----------------------------------------------!
Ref DB    Field Name             !   RPC-Service - Modify Generation Options    !
AE  1K 2  SURNAME ............   !                                               !
AF  1  2  FIRST-NAME-1 .......   !  RPC Service Object Name ........ ________   !
AL  1  2  STREET-NUMBER ......   !              Library ............ ________   !
AM  1K 2  COUNTRY ............   !                                               !
AN  1K 2  ZIP-CODE ...........   !  Generation Mode ................ C  Context !
AO  1K 2  CITY ...............   !  Limit of Result Records ........ 1638___    !
BI   #    NAME-START .........   !  (Max. possible Result Records .. 1638    )  !
BJ   #    NAME-END ...........   !-----------------------------------------------!
BK        ____________________        !                          !
BL        ___________________________   !  _  Modify Transaction  !
BM        ___________________________   !-------------------------!
BN        ___________________________
BO        ___________________________________
BP        ___________________________________



Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                     Flip                                Canc
```

3. Specify the RPC Service Object Name "RPCSMPL2" and the Library NSNSAMPL to generate the RPC Service.

4. Select Generation Mode Context.

5. Delete the Record Limit and press Enter to receive the recommended record limit for the generation.

6. Press Enter.

   The RPC Service is generated. You can view it by logging on to the respective library and choosing the RPC Service Object. You will find the description of the source in the *Super Natural Administration Manual*.

Proceed the data on your PC

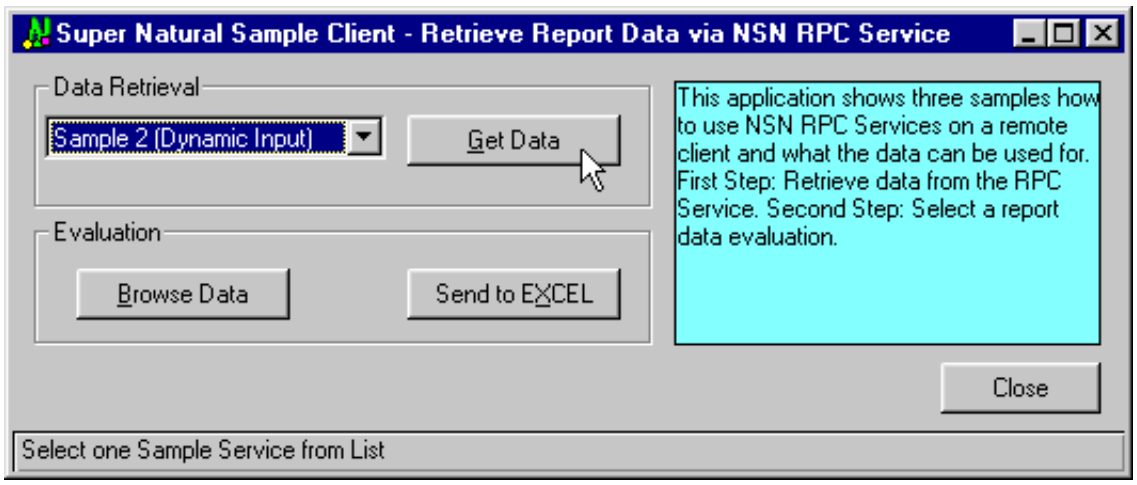
To proceed the data on your PC

Before you can work with the generated RPC Service, you have to set up your Natural environment and load the example data from the Documentation CD to your Natural for Windows environment. You will find the description how to set up your environment for the RPC Service in the *Super Natural Installation Manual*.

1. Open your Natural for Windows.

2. Execute **User Libraries** > **NSNSAMPL** > **Dialogs** > **Menu** by using the `Execute` button in the symbol list.

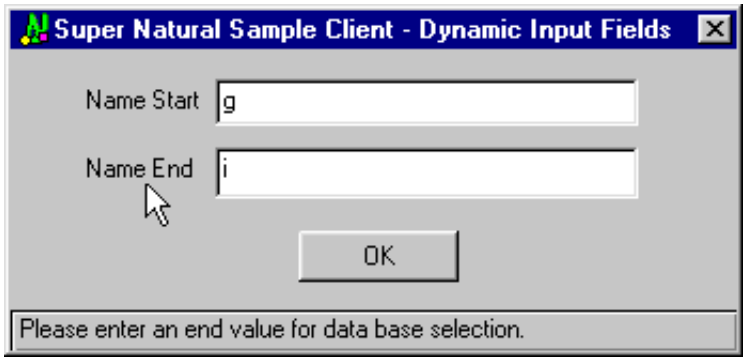
   The following dialog appears:



3. Select **Sample 2** (Dynamic Input) in the Data Retrieval field.

4. Choose `Get Data` to load the sample data.

   The following dialog appears:



5. Enter the start and end value as dynamic input.

6. Select OK.

   The data is loaded from your mainframe environment and displayed on your PC where you can browse the data.

7. In order to proceed with this data on your PC, send it to Excel by selecting the `Send to Excel` button.

   The selected data is sent to Excel and inserted into a table.

Sample 11: RPC Service in Direct Mode with Summary Functionality

Task: Generate an RPC service based on the shipping data using the summary functionality to process on your PC via Excel.

This transaction uses the summary function to show cumulated data for statistical purposes. The RPC Generation is executed in Direct Mode.

Prerequisites

Your administrator has to set the Service Type of the Service Generation Options in you user profile to R.

If you Server is running under Natural Security, you have to set up your RPC example client to run this example correctly.

To set up the RPC sample client for Natural Security

1. Execute the Program **USR1071P** from the system library**SYSEXT** in your Natural for Windows.
2. Fill the following fields in the appearing screens as follows:
   - Set RPC Data field toX
   - Set Code field to T
   - Set User-ID field to the Logon-ID of Natural Mainframe
   - Set User ID’s Password field to the Password of Natural Mainframe

Transaction Specification

Primary File	**SAG-TOURS-E-CONTRACT**
Display System Functions	cnt DATE-BOOKING sumPRICE avg PRICE maxPRICE min PRICE oldBOOK-MONTH
Control Field	C1: DATE-BOOKING
Selection Criteria	DATE-BOOKING = 19910101 THRU 19911231 AND DATE-CANCELLATION EQ 0

This section covers the following topics:

- Create the Transaction SAMPLE11

- Generate the RPC Service
- Proceed the data on your PC

Create the Transaction SAMPLE11

To Add a Transaction

1. Issue the `ADD TRANSACTION SAMPLE11` command.

   The Add Transaction window appears with the transaction name already entered in the Transaction IDfield.

To Choose File

The report requires data from the file**SAG-TOURS-E-CONTRACT**.

1. Type the file name **SAG-TOURS-E-CONTRACT** in theFile Name field. You can alternatively use the `Asterisk (*) List` function.
2. Press Enter.

   The Worksheet appears.

To Choose Fields

The report requires data stored in the fieldsCONTRACT-ID, PRICE, DATE-BOOKINGand DATE-CANCELLATION.

1. Choose the fields as described in Step 3 of **Sample 1**.

To Create the User Field BOOK-MONTH

1. Type BOOK-MONTH into the Field Name column and press Enter.

   The Define User Field window appears:

2. Fill in the required information as shown in the following screen:

```
20:41                        ***** SUPER NATURAL *****                  2000-10-17
SAMPLE11                             - Worksheet -                          SN3011
                           !-------------------------------------------------------!
Ref DB    Field Name       !                  Define User Field                    !
AA  1K    CONTRACT-ID ...  !  Field: BOOK-MONTH                                    !
AC  1     PRICE .........  !                                                       !
AF  1K    DATE-BOOKING ..  !  Name or value .. BOOK-MONTH_____________________     !
AG  1K    DATE-CANCELLATI  !  Format ......... n                                   !
AR        BOOK-MONTH_____  !  Length ......... 6 _                                 !
AS        _______________  !  Dec. places .... _                                   !
AT        _______________  !  Subfield of .... DATE-BOOKING_____________________   !
AU        _______________  !  Offset ......... ___                                 !
AV        _______________  !  Dynamic input .. _                                   !
AW        _______________  !-------------------------------------------------------!
AX        _______________
AY        ___________________________________
AZ        ___________________________________
BA        ___________________________________



Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit              Flip                                  Canc
```

3. Press Enter.

   The Worksheet appears. The field BOOK-MONTH is inserted as a user field.

To Create the Control Break

- Type "C1" in the Control column next to the field DATE-BOOKING.

To Define the System Function

1. Type "SF" in the Func column next to the field PRICE.
2. Press Enter.

   The Specify System Functions screen appears.
3. Mark Sum, Avg,Max and Min next to the Control FieldDATE-BOOKING.
4. Type "SF" in the Func column next to the field DATE-BOOKING.
5. Press Enter.

   The Specify System Functions window appears.
6. Mark Cnt next to the Control FieldDATE-BOOKING.
7. Press Enter.

   The Worksheet appears.

To Determine Display Sequence

1. Type "1" in the Sequence column next to the field BOOK-MONTH.

   Now your worksheet looks as follows:

```
10:46                        ***** SUPER NATURAL *****                  2000-10-04
SAMPLE11                           - Worksheet -                            SN3011

Ref DB    Field Name                          Seq   S/C  Func Def  Info Del
AA  1K    CONTRACT-ID ....................    ___   ___   __   __   __   __
AC  1     PRICE ..........................    ___   ___   >_   __   __
AF  1K    DATE-BOOKING ...................    ___   C1_   >_   __   __
AG  1K    DATE-CANCELLATION ..............    ___   ___   __   __   __
AR   U    BOOK-MONTH .....................    1__   ___   __   __   __
AS        ____________________________________
AT        ____________________________________
AU        ____________________________________
AV        ____________________________________
AW        ____________________________________
AX        ____________________________________
AY        ____________________________________
AZ        ____________________________________
BA        ____________________________________


Enter "*" in Fieldname column to select fields or enter NEXT
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip    -     +         Sel   Run   Canc
```

To Define Selection Criteria

The report requires information on the Date of booking and cancellation.

1. Press `PF10`.

   The `SELECTION` command is issued and the Selection Editor appears.

2. Enter "DATE-BOOKING = 19910101 THRU 19911231 AND DATE-CANCELLATION EQ 0" in the editor area.

   The Selection Editor has the following content:

```
10:49                        ***** SUPER NATURAL *****                  2000-10-04
SAMPLE11                         - Selection Editor -                       SNZUL-S


      1  < DATE-BOOKING = 19910101 THRU 19911231                          >    1
      2  < AND DATE-CANCELLATION EQ 0                                     >    2
      3  <                                                                >    3
      4  <                                                                >    4
      5  <                                                                >    5
      6  <                                                                >    6
      7  <                                                                >    7
      8  <                                                                >    8
      9  <                                                                >    9
     10  <                                                                >   10
     11  <                                                                >   11
     12  <                                                                >   12
     13  <                                                                >   13
     14  <                                                                >   14
     15  <                                                                >   15

Define selection lines or use CONTINUE
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip    -     +         Cont  Run   Canc
```

To Run the Transaction

1. Issue the RUN command. This command is allocated to PF11.
2. Press Enter.

   The report is displayed.

```
2000-10-17  DATE-BOOKING = 19910101 THRU 19911231                          1
20:55:09    AND DATE-CANCELLATION EQ 0
SAMPLE11
     BOOK-MONTH
     ----------

** Control Break (1) **
     DATE-BOOKING :   19910127
Old      199101
Cnt       DATE-BOOKING =       100
Sum       PRICE =          415590.000
Avg       PRICE =            4155.900
Max       PRICE =           18700.000
Min       PRICE =            1360.000









Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip          +                     Canc
```

3. Press PF3.

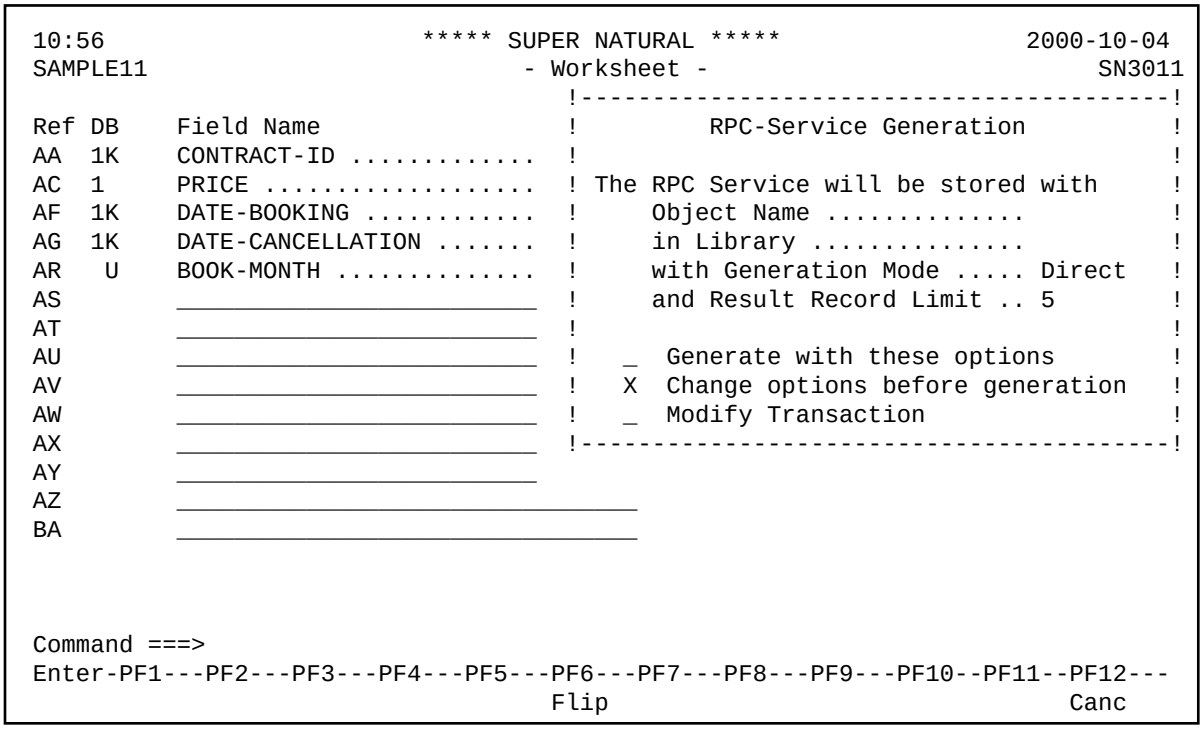
   The Worksheet appears again.

Generate the RPC Service

To generate the RPC Service for the transaction SAMPLE11

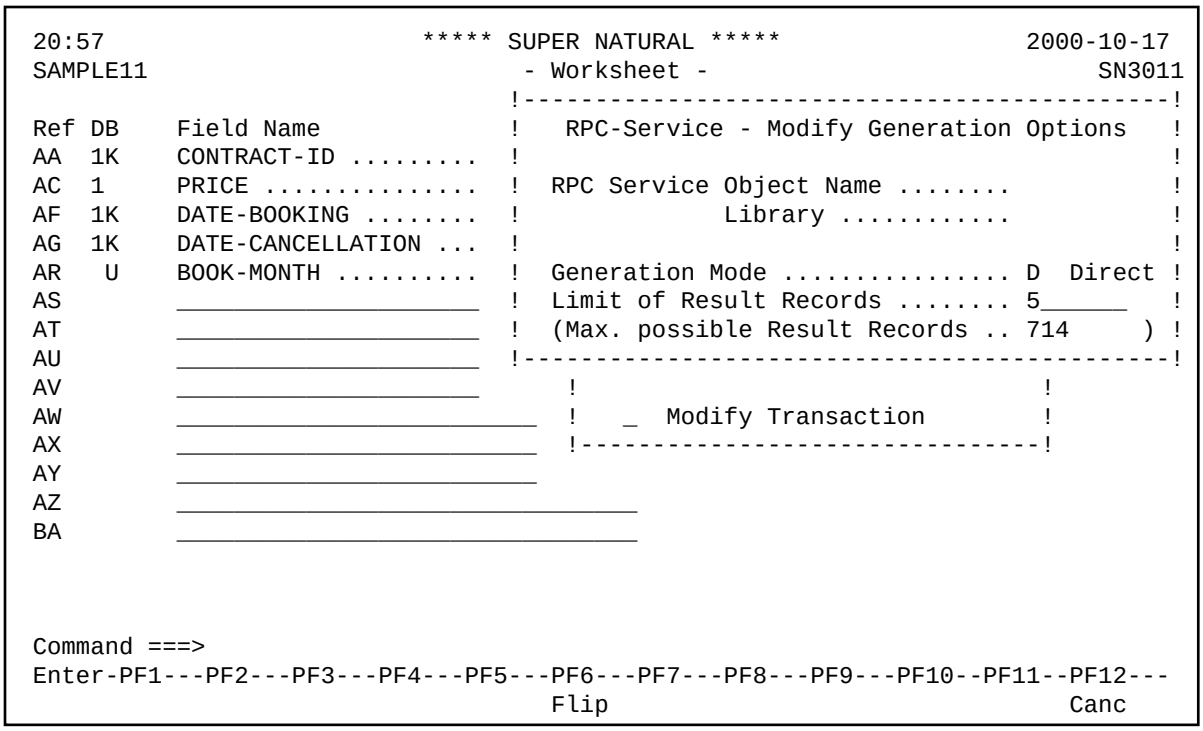
1. Issue the command GENERATE RPC in the Worksheet of the transaction SAMPLE11 and press Enter.

   The following window appears:



2. Mark the option Change options before generation and press Enter.

   The following window appears:



3. Specify the RPC Service Object Name "RPCSMPL3" and the Library NSNSAMPL to generate the RPC Service.
4. Select Generation Mode Direct.
5. Set the Record Limit to "5" and press Enter to limit the number of retrieved records.
6. Press Enter.

   The RPC Service is generated. You can view it by logging on to the respective library and choosing the RPC Service Object. You will find the description of the source in the *Super Natural Administration Manual*.

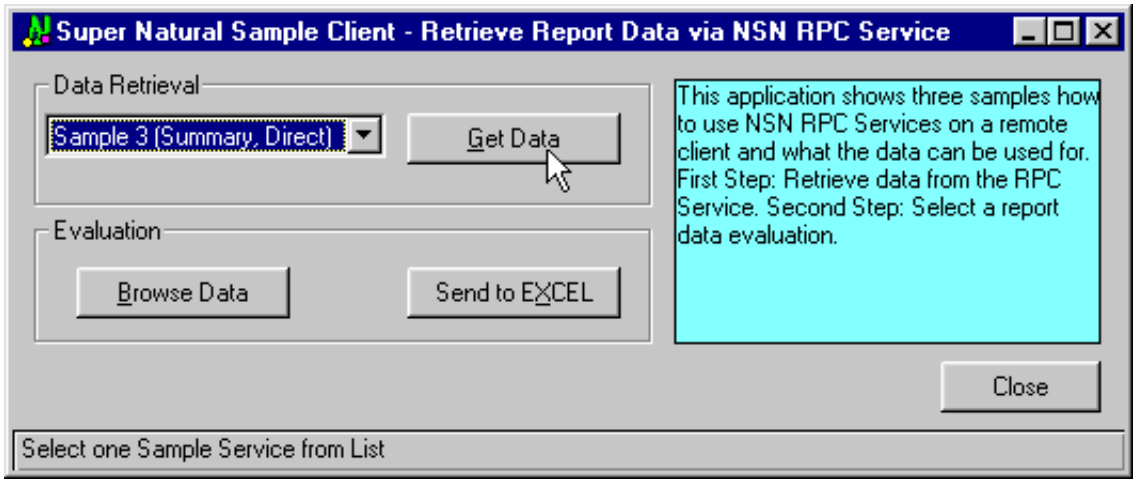
Proceed the data on your PC

To proceed the data on your PC

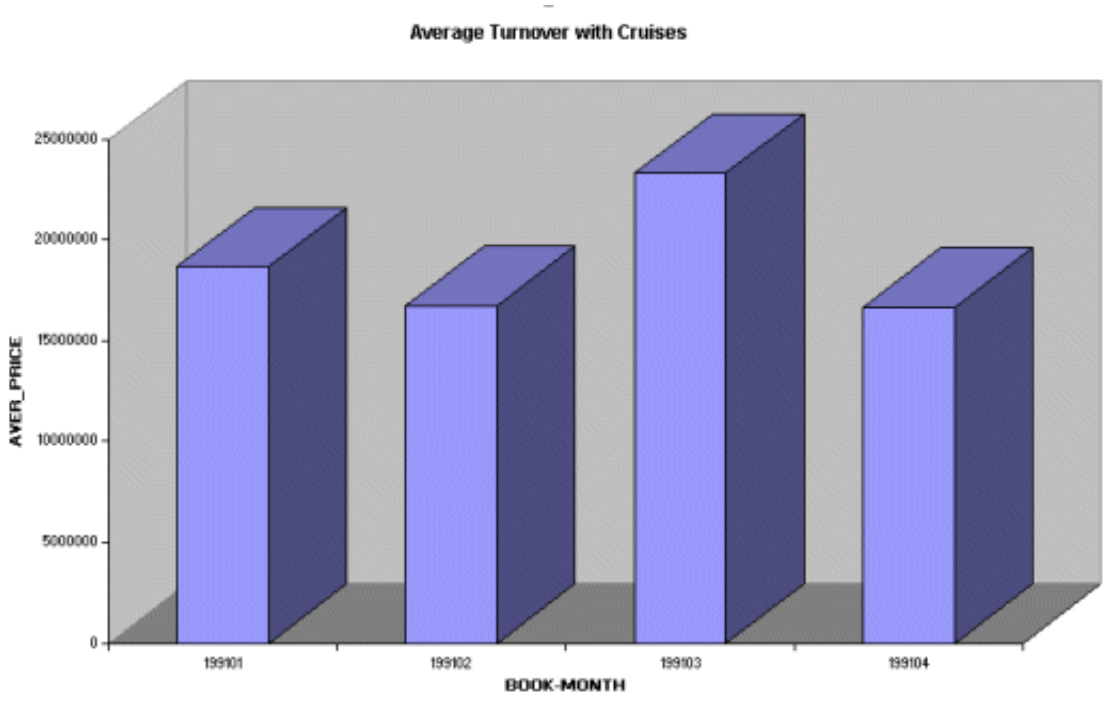
Before you can work with the generated RPC Service, you have to set up your Natural environment and load the example data from the Documentation CD to your Natural for Windows environment. You will find the description how to set up your environment for the RPC Service in the *Super Natural Installation Manual*.

1. Open your Natural for Windows.
2. Execute **User Libraries** > **NSNSAMPL** > **Dialogs** > **Menu** by using the `Execute` button in the symbol list.

   The following dialog appears:



3. Select **Sample 3** (Summary, Direct) in theData Retrieval field.
4. Choose `Get Data` to load the sample data.
5. Select OK.

   The data is loaded from your mainframe environment and displayed on your PC where you can browse the data.
6. In order to proceed with this data on your PC, send it to Excel by selecting the `Send to Excel` button.

   The selected data is sent to Excel, inserted into a table and displayed as a chart.